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Collated C.K. 2.5.11.

THE INSECT PEST SURVEY
BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

*Collated
C.K. 2.5.11.*

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Number 1

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THE MORE IMPORTANT RECORDS FOR JANUARY AND FEBRUARY, 1932

The abnormally mild winter temperatures that prevailed over the greater part of the Eastern and Southern States and the unusually early spring are closely associated with a number of very unusual insect conditions in many parts of the United States.

Naturally, following the very serious grasshopper devastations of last year, these insects are attracting a good deal of attention. An abundant snowfall in the West Central and North Central States and comparatively mild temperatures over the southern part of this area are accompanied by a very high survival of grasshopper eggs in Wisconsin and the Dakotas. Egg capsules collected in North Dakota and brought into the laboratory gave a 95 per cent hatch.

In the extreme South cutworm moths have been observed practically all winter, and during the months of January and February cutworms have occasioned very considerable damage throughout the Gulf region.

Owing to very favorable winter conditions, the Hessian fly seems to be present in threatening numbers in many parts of the East Central States, as is also the chinch bug. The latter insect is in hibernation quarters in excellent condition from Illinois westward.

In the South Atlantic States, from Virginia to Georgia and Mississippi, the green bug is more prevalent than it has been for many years and is causing some injury in isolated fields.

The sugarcane borer did not hibernate this winter in the cane fields of Louisiana, but active larvae were found all winter.

A high survival of codling moths is reported from New York to Georgia westward to Illinois and Missouri.

The large populations of the San Jose scale that built up during 1931 have apparently passed the winter with very low mortality. The insect is quite generally reported as increasingly abundant from New York to Georgia and westward to Illinois, Michigan, and Missouri.

Overwintering larvae of the oriental fruit moth began pupating early in February and by the end of the month over 11 per cent of the overwintering larvae had pupated in Georgia and adults were starting to emerge.

In the Gulf district of Alabama and Mississippi the vegetable weevil has attracted probably more attention than any other truck-crop insect. This comparatively newly introduced pest is continuing to spread northward.

The mild, dry winter along the South Atlantic seaboard from North Carolina to Georgia, and around the Gulf to Mississippi, resulted in what appears to be an unprecedented outbreak of the false chinch bug. The insect severely injured many garden crops, particularly mustard, turnip, carrot, cabbage, and lettuce.

The open winter also made it possible for the imported cabbage worm and the diamond-back moth to continue work throughout the winter, resulting in very serious damage in many of the winter-truck-growing sections from Virginia southward to Georgia and around the Gulf to Texas. Over much of this region cabbage was also infested by the cabbage looper, the cabbage webworm, and the cabbage aphid.

The harlequin bug was more or less active all winter in Virginia, and newly laid eggs were observed in the field in the Norfolk district during the last week in January and the first week in February. Probably owing to this mild winter, the insect is reported as unusually abundant in the Southeastern and Gulf States.

Canker worms began emerging during the first week in January in eastern Kansas. There was a very heavy emergence of the fall canker worm during the second week in February, and a similarly heavy emergence of the spring canker worm during the fourth week of February.

In that part of the lower peninsula of Michigan where walkingsticks defoliated large areas in 1930, the eggs did not hatch during 1931, and at the present time are so numerous that in some places as high as 50 eggs to the square foot are found beneath the trees.

The boxelder bug has been very troublesome in the northern part of its range from Maryland to Iowa. The early warm weather has aggravated the nuisance of the entry of houses by these insects.

Buffalo gnats appeared in the Mississippi Delta about the middle of January, which is probably the earliest record of the appearance of this insect in that district. They have not, so far, been unusually abundant.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Virginia C. R. Willey (February 23): Schistocerca americana Drury is moderately abundant. Many were seen in the woods on January 23 while hunting at Alberta, Brunswick County. The grasshoppers would fly up like birds and take to the trees.
- Georgia J. B. Gill (February 22): Adults of Melanoplus femur-rubrum DeG. and other species have remained active during the winter.
- Florida J. R. Watson (February 23): S. americana is moderately abundant over all Florida.
- Wisconsin E. L. Chambers (February 24): While we have no definite data on the overwintering of grasshoppers, the snow in the light sand areas usually most heavily infested has been sufficient to afford quite favorable winter protection, while the southern half of the State has as yet had practically no snow and very frequent and radical changes from sub-zero to very high temperatures, which should be very unfavorable for survival.
- North Dakota J. A. Munro (February 23): Of the various insects of economic importance, grasshoppers of the destructive species are causing the most concern. Samples of soil containing thousands of grasshopper eggs, sent in recently from infested areas, indicate that the eggs are wintering over in almost perfect condition. When reared in an incubator these eggs showed a 95 per cent hatch. Pembina, Walsh, and Grand Forks Counties were the most seriously infested with grasshoppers during the past season.
- Missouri L. Haseman (February 22): Eggs are abundant and a large percentage of them seem to be in good condition.
- E. C. Sullivan (February 19): Grasshopper eggs are very abundant in western and northwestern Missouri.
- Kansas H. B. Hungerford (February 23): Nymphs are moderately abundant.
- Mississippi C. Lyle and assistants (February): Grasshoppers were moderately abundant all winter in Monroe County; a few were observed in January in Panola County. S. americana can still be seen flying in George County. (Abstract, G. M.)
- Wyoming A. G. Stephens (February 18): Grasshoppers have been reported scarce in northeastern Wyoming; although some have been noted.

CUTWORMS (Noctuidae)

- South Carolina J. N. Tenhet (January 15): Cutworms are unusually abundant for this season of the year, and are severely injuring many gardens in Fairfax.
- A. Lutken (February 22): Cutworms have been very destructive to truck crops in the southeastern section of the State during January and February.
- Florida H. T. Fernald (February 25): Cutworm moths of a number of kinds have turned up at lights nearly all winter at Orlando.
- Tennessee H. G. Butler (February 26): Some injury to buds around Harriman has recently occurred but the damage so far is not serious.
- Alabama J. M. Robinson (February 23): Cutworms are very abundant at Ozark and Auburn, where Austrian peas have been destroyed.
- Mississippi C. Lyle and assistants (February): The black cutworm (Agrotis ypsilon Rott.) was reported as moderately abundant on English peas in southern Jackson County, February 12; the variegated cutworm (Lyconhotia margaritosa saucia Hbn.) was found moderately abundant on cabbage at Wiggins. (Abstract, G.M.)

COMMON RED SPIDER (Tetranychus telarius L.)

- Georgia C. I. Snapp (February 18): Red spiders are unusually abundant on ornamental plants in a nursery at Fort Valley and also on some plantings around homes. They have caused some injury.
- Mississippi C. Lyle and assistants (February): Complaints regarding injury to various ornamentals, citrus, and strawberry are being received from the southern half of the State. (Abstract, G.M.)

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytothaga destructor Say)

- Illinois W. P. Wolcott (February 22): Conditions have been almost ideal for survival of the Hessian fly; and we anticipate an extremely heavy spring brood. Because of the very favorable growing conditions even heavily infested wheat was not damaged to any extent this year.
- Missouri L. Haseman (February 22): The Hessian fly situation is alarming. The open winter seems to be favoring the pest.

K. C. Sullivan (February 19): A Hessian fly survey carried on during February in 37 counties indicates that the average percentage of plants infested was 5.6. From 50 to 150 plants were collected from each county in the survey.

CHINCH BUG (Blissus leucopterus Say)

Illinois

W. P. Flint (February 22): Chinch bugs have come through the winter in very good condition. An infestation over the greater part of central and west-central Illinois runs from 150 to 600 bugs per 50 stalks of bunch grass. The most intense infestation was in the southern one-half of the State, extending from Menard and Logan Counties southward to Washington and St. Clair Counties, where infestation runs over 600 to 50 stalks.

Missouri

L. Haseman (February 22): In spite of wet weather the chinch bug seems to ~~be~~ wintering well.

K. C. Sullivan (February 19): The last two summers have been dry, almost ideal conditions for the development of chinch bugs, with the result that last fall large numbers went into hibernation. They may be found at the present time in practically every section of the State. A survey carried on during late January in which observations were made in 28 counties indicates that the average per acre population for the counties examined amounts to over 41,000,000 bugs.

ENGLISH GRAIN APHID (Macrosiphum granarium Kby.)

Maryland

F. M. Wadley (February 13): M. granarium, Toxoptera graminum Rond., and Rhopalosiphum prunifoliae Fitch have been noted on volunteer oats near Silver Spring at different times during the winter. On February 13 five wheat fields in lower Montgomery County were examined; M. granarium was found generally distributed, though usually only in small numbers, in all the fields. The other two species were found in some places, but only after considerable searching.

North Carolina

Z. P. Metcalf (February 26): The European grain aphid (M. granarium) has been reported from widespread localities throughout the State and in some sections has done considerable damage.

GREEN BUG (Toxoptera graminum Rond.)

Maryland

E. W. Cory (February): Apparently contributing to injury to winter wheat in Dorchester and Carroll Counties. Possibly present elsewhere in the State.

Virginia

W. J. Schoene (February 22): We have had a number of complaints about the green bug on wheat. These have come from a number of counties in each wheat-growing section and from Halifax County just out of the wheat belt. The county agents have reported that many wheat fields have been severely damaged.

C. R. Willey (February 23): There have been several reports lately of damage by grain aphids in Goochland County. I have examined fields of wheat in Shenandoah Valley counties, and find aphids fairly abundant in early-planted fields, but apparently doing no damage. The county agent of Rockingham County reported two fields of barley damaged. Fields between Richmond and Scottsville along James River are more or less infested, but apparently there has been no damage.

Georgia

O. I. Snapp (February 19): This insect is very abundant in some wheat fields and has caused considerable injury, especially at Marshallville.

Mississippi

H. Dietrich (February 21): The spring grain aphid was observed killing oats in a field near Lucedale in the middle of December, and by the end of January the field was bare.

CORN

CORN EAR WORM (*Heliothis obsoleta* Fab.)

Florida

J. R. Watson (February 23): Corn ear worms are moderately abundant. There have been more complaints than usual for February.

CLOVER AND ALFALFA

TARNISHED PLANT BUG (*Lygus pratensis* L.)

Virginia

H. G. Walker (February 26): Tarnished plant bugs were observed actively feeding in alfalfa on February 4.

CLOVER SEED WEEVIL (*Tychius picirostris* Fab.)

Washington

Mr. W. Baker (January - February): Five specimens of *Miccotrogus picirostris* Fab. have been taken from vetch growing in the close vicinity of Puyallup during January and February. The nine specimens taken on clover were from five separate localities in this vicinity.

SORGHUM

CORN LEAF APHID (*Aphis maidis* Fitch)

Louisiana

J. W. Ingraham and E. K. Bynum (January 29): Wingless aphids have been found on sorghum throughout the winter. Winged forms were observed in small numbers on sorghum during the latter part of January. This aphid transmits sugarcane mosaic disease.

GRASS

SOD WEBWORMS (Cratichneumon spp.)

Pennsylvania

H. E. Hodgkiss (February 25): There has been some activity during the winter; adults of sod webworms, species not ascertained, have been flying during the warmer periods, indicating an unusual condition.

RANGE CRANE-FLY (Tipula simplex Doane)

California

E. O. Essig (February 15): The range crane fly, T. simplex, and other species are abundant in pasture lands in central California.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

T. E. Holloway and W. E. Haley (January 29): The extremely mild winter, with a minimum temperature of 42° F. in New Orleans up to this time, has resulted in unusual conditions. Sugarcane is 3 feet tall. The sugarcane borer is not hibernating, but larvae having the summer coloration are to be found in the corn and sugarcane plants. Pupae and large larvae were found in corn, but larvae in sugarcane are in the general not so far advanced. (February 17): The first generation of the year is now beginning. This is nearly three months earlier than normal. Egg clusters are to be found in the fields. Large larvae and pupae are plentiful. Sugarcane has remained green all winter, and some which was planted last August has already reached a height of from 5 to 6 feet.

W. A. Douglas (January 27): I collected and examined 400 rice stubs between January 18 and 22 to ascertain the percentage of hibernating larvae alive. In the 400 stubs I found 12 larvae, all alive.

J. W. Ingram and E. K. Bynum (January 29): Examinations were made to determine the number of live borer stages in sugarcane and volunteer corn during the latter part of the month. On a plantation near Houma it was estimated that volunteer corn contained 781 larvae and 166 pupae per acre as compared with 3,049 larvae and 363 pupae in C. P. 807 sugarcane and 435 larvae and 290 pupae in Co. 281 sugarcane.

E. K. Bynum (February 19): First-generation borers were found today feeding in the tops of several young shoots of sugarcane.

A WEEVIL (Anacetrus sp.)

Louisiana J. W. Ingram and E. K. Bynum (January 29): The number of buds killed by a small weevil, Anacetrus sp., on sugarcane stubble is unusually high on one plantation. Further examinations will be made to determine whether the warm weather or other factors have favored weevil injury or whether the damage is local.

GRAY SUGARCANE MEALYBUG (Pseudococcus boninsis Kuw.)

Louisiana J. W. Ingram and K. E. Bynum (January 29): Numbers of sugarcane mealybugs have been observed feeding on sugarcane above ground throughout the winter.

RICE

A BILLBUG (Calendra chittendeni Blatch.)

Mississippi H. Dietrich (February 21): Larvae were very common in
and rice stubble in the southern part of Perry County, Miss.,
Missouri in December. Emergence was observed February 11 at Webster
Groves, Mo. (Det. A. F. Satterthwait).

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

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

New York P. J. Parrott (February 23): Codling moths are very abundant in western New York.

West Virginia L. M. Peairs (February 24): A good survival of codling moths is indicated.

Georgia C. H. Alden (February 19): There is a heavy carry-over of hibernating larvae at Cornelia. Pupation started on the south side of trees under bands in orchards on February 10.

Illinois W. P. Flint (February 22): Larvae in orchards are nearly all alive regardless of their location on the trunk or branches of the tree or on the ground. While the larvae going into winter quarters may have been slightly less than was the case in the fall of 1930, the very high survival will mean an extremely heavy first brood unless some unforeseen conditions cause the death of overwintering larvae before time of pupation and emergence.

Missouri L. Haseman (February 22): An alarming carry-over of larvae has been observed.

Oregon D. C. Mote (February): Larvae under tree bands overwintered in good condition.

APHIDS (Aphidae)

West Virginia L. M. Peairs (February 24): Eggs of fruit aphids, species not known, are very abundant on apple at Martinsburg and Morgantown.

Virginia C. R. Willey (February 23): A good many buds were found covered with young on February 11 and 13 at Timberville.

W. J. Schoene (February 22): The aphid eggs in apple trees are more numerous than for some years.

Oregon D. C. Mote (February): More eggs are being found in orchards than usual in the central Willamette Valley.

APPLE APHID (Aphis pomi DeG.)

Pennsylvania J. R. Stear (February 22): Eggs of the apple aphid and probably of the grain aphid (Rhopalosiphum prunifoliae Fitch) are abundant on apple at Ligonier. Owing to the long-continued warm weather last fall, the apple aphid increased in large numbers on apple foliage through October and November. This probably accounts for the large number of aphid eggs.

H. E. Hodgkiss (February 25): Eggs of the green apple aphid were laid abundantly last fall and it appears from our observations that there will be very heavy infestations of this insect during spring. Nymphs were hatching in January in Chester County.

ROSY APPLE APHID (Anuraphis roseus Baker)

Virginia W. J. Schoene (February 22): Individuals were still alive in apple trees at Blacksburg after the first of January.

Pennsylvania H. E. Hodgkiss (February 25): Eggs of the rosy apple aphid and grain aphid (R. prunifoliae) were laid abundantly last fall.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Kentucky W. A. Price (February 24): Woolly apple aphids appeared above ground on apple trees at Hazard on February 8. In the southern part of the State this is a very important pest.

Mississippi C. Lyle and assistants (February): Specimens were received on apple from New Albany on February 3, and from Three Rivers, February 19, and on crabapple from Magnolia, February 15. (Abstract, G.M.)

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York P. J. Parrott (February 23): The San Jose scale is very abundant in western New York.

Pennsylvania H. E. Hodgkiss (February 25): The San Jose scale increased abundantly in 1931 and is a paramount pest in the Cumberland Valley region and in the western-tier counties of Pennsylvania.

West Virginia L. M. Peairs (February 24): The San Jose scale is more abundant than usual at Morgantown and Martinsburg.

North Carolina R. W. Leiby (February 20): The winter survival at Raleigh appears to be high. Crawlers were observed on February 8, which might indicate an extra generation this year. Such early activity of crawlers is unusual for the Moore County section.

Georgia O. I. Snapp (January 20): The infestation at Fort Valley this winter is greater than it has been for many years. The very mild winter has permitted scale reproduction to continue uninterrupted. The omission of the dormant spray by some growers during recent years has also contributed to the increased infestation. There has not been the usual scale mortality from low temperatures this winter, and the percentage of live scale is unusually high. Of 9,500 scales examined, 8,605, or 90 per cent, were alive.

C. H. Alden (February 19): The San Jose scale is very abundant at Cornelia; heavy infestation on both peach and apple.

Florida E. W. Berger and G. B. Merrill (February 22): The San Jose scale is moderately abundant in northern and western Florida on peach and plum.

Illinois W. P. Flint (February 22): The immature forms have come through the winter with one of the lowest mortalities on record. A few recent examinations show 60 to 70 per cent of the scale alive.

Michigan R. H. Pettit (February 23): The San Jose scale is very plentiful.

Missouri L. Haseman (February 22): The San Jose scale bred until late November. It is building up an alarming population.

K. C. Sullivan (February 19): The scale is moderately abundant - 83 per cent alive in all parts of the State.

- Tennessee H. G. Butler (February 26): Young scale insects were found February 25 beneath overwintering females. Not many young scales were present so I judge reproduction is just starting.
- Mississippi C. Lyle and assistants (February): The San Jose scale has been reported from moderately abundant to very abundant from all over the State. (Abstract, G. M.)
- Oregon D. C. Mote (February): Extension workers report scale increasing; it is very abundant.
- California E. O. Essig (February 17): The San Jose scale is moderately abundant in the upper San Joaquin Valley only.
- FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)
- Missouri L. Haseman (February 22): Flat-headed apple tree borers were more abundant last fall than usual and borers are carrying over in great numbers though they show considerable parasitism.
- EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)
- Pennsylvania J. R. Stear (February 22): Eggs are very scarce, almost impossible to find.
- H. E. Hodgkiss (February): The European red mite is again abundant following two years during which little damage was noticed.
- PEACH
- ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)
- Georgia W. H. Clarke (February 27): Overwintering larvae at Thomaston are beginning to pupate; one pupa found in the field; 1 per cent of larvae pupated in insectary (February 5); approximately 4 per cent of the larvae have pupated in the insectary, and a single adult female emerged today (February 5) (the earliest record taken for adult emergence in Georgia). To date (February 27) over 11 per cent of the overwintering larvae have pupated in the insectary, and over 1 per cent of the overwintering material has emerged as adults. The pupation and adult emergence dates given are the earliest ever observed in the study of this insect at Thomaston, and no doubt these are the records recorded for the State. The infestation in harvested fruits last year was only 25 per cent, the average of experimental plats.
- PEACH BORER (Aegeria exitiosa Say)
- Kentucky W. A. Price (February 24): Nearly full grown larvae were received from Louisville on February 12.

Mississippi C. Lyle and assistants (February): The peach borer is reported from many parts of the State as seriously abundant this spring. Infestation in the north-central part of the State is reported as heavier than it has been for many years. (Abstract, J.A.H.)

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Georgia O. I. Snapp (February 19): Although this has been the warmest winter in 40 years, with a maximum temperature of 81° F. for February, the plum curculio has not yet appeared from hibernation at Fort Valley. Many trees near woods, abandoned fields, and other favored places of hibernation were jarred during February for the adults, but not a single individual was taken.

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

Georgia W. H. Clarke (February 27): This insect has been active the entire winter. Beetles by the hundreds have been found on peach trees throughout the middle Georgia area, although no feeding injury has been noted.

Virginia H. G. Walker (February 26): Fuller's rose beetles were observed actively feeding on alfalfa on February 4.

BLACK PEACH APHID (Amuraphis persicae-niger Smith)

Maryland H. D. Weihe (January 26): Aphids were collected on peach twigs January 24 in Prince Georges County near the District line.

West Virginia L. M. Peairs (February 24): Black peach aphids were reported as moderately abundant at Morgantown; they were breeding actively outside, during January and February.

Kentucky W. A. Price (February 24): Twigs of a 3-year-old peach tree at Mingo were well covered with the nymphs and winged forms on February 13.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

Mississippi W. L. Gray (February 17): This scale is very abundant in Adams County and moderately abundant in Jefferson County on peach and plum.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Mississippi J. P. Kislarzko (February 20): Eggs of the rusty plum aphid are very abundant in Wiggins, Stone County.

RASPBERRY

RASPBERRY FRUIT WORM (Byturus unicolor Say)

Washington

W. W. Baker (January): More or less concrete evidence of a partial 2-year brood of this beetle was obtained at Puyallup this winter when three adults emerged from larvae collected in the field on March 9, 1931, the adults emerging on January 8 and 19, 1932.

PECAN

GIANT APHID (Longistigma caryae Harr.)

North Carolina

R. W. Leiby (February 11): L. caryae is reported as very abundant on pecan trees in Wilmington.

Georgia

J. B. Gill (February 22): This insect is active on pecan trees at Albany.

Alabama

J. M. Robinson (February 23): Giant hickory aphids are reported from Troy, Opp and Andalusia.

Mississippi

C. Lyle and assistants (February): Extremely heavy infestations on pecans have been reported from Pascagoula, Moss Point, and Hattiesburg. (Abstract, G.M.)

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Mississippi

C. Lyle and assistants (February): The insect is present on Satsuma and extremely abundant on Cape jasmine in the southeastern part of the State. (Abstract, G.M.)

CITRUS APHID (Aphis spiraeicola Patch)

Florida

J. R. Watson (February 23): The citrus aphid is not much in evidence. This seems to be due largely to the fungus Emusa fresenii, which usually checks the aphids in April.

H. T. Fernald (February 25): The citrus aphid has appeared at Orlando on some of the new growth recently, but so far is not serious, though if we do not get rain soon I fear it may become so.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia

J. B. Gill (February 22): Outbreaks on citrus trees and ornamentals were reported during the winter from Cordele, Vienna, Fort Gaines, Edison, Augusta, Savannah, Butler Island, Brunswick, and Blackshear. Have been supplying interested parties with Vedalia material from our Albany, Ga.,

station. It appears that the cottony-cushion scale is more abundant than usual and that outbreaks are occurring earlier than in former years.

Alabama

J. M. Robinson (February 23): The cottony-cushion scale is abundant on Pittisporum at Eufaula and Mt. Vernon.

PURPLE SCALE (Levidosaphes beckii Newm.)

Florida

J. R. Watson (February 23): The purple scale has been actively laying eggs and there are many crawlers on the trees. Sphaerostilbe has been growing markedly on the purple scale.

SOFT SCALE (Coccus hesperidum L.)

Mississippi

H. Dietrich (February 21): The soft brown scale is very abundant on Satsuma at Lucedale.

CITROPHILUS MEALYBUG (Pseudococcus gahani Green)

California

E. O. Essig (February 17): The citrophilus mealybug is moderately abundant in the San Francisco Bay region of northern California.

FIGS

GREEN SHIELD SCALE (Pulvinaria psidii Mask.)

Florida

E. W. Berger and G. B. Merrill (February 22): The green shield scale is very abundant, and particularly severe on Florida strangler figs (Ficus aurea), but also bad on guavas.

CAMPHOR SCALE (Pseudaonidia duplex Oклl.)

Mississippi

F. P. Amsler (February 15): The camphor scale was taken on a shipment of fig cuttings from Bay St. Louis, Hancock County, the first week in February. This scale has also been found at Logtown, Hancock County.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

- Alabama J. M. Robinson (February 23): The vegetable weevil is reported on lettuce and turnips at Petrey, and on turnips at Flowerton, Auburn, and Evergreen.
- Mississippi M. M. High (January 8): During the past days the weevil has been found in the following counties: Itavamba, Union, Prentiss, and Tishomingo. The weevil has been found breeding on two wild plants not heretofore recorded.
- C. Lyle (February 22): These larvae have probably attracted more attention in Mississippi during 1932 than any other insect, complaints of serious damage to turnips, collards, cabbage, onions, and other garden crops having been received during January and February.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- Virginia H. G. Walker (February 26): The spotted cucumber beetle has been more or less active on warm days in an alfalfa field at the Virginia Truck Experiment Station during January and February.
- South Carolina A. Lutken (February 22): Spotted cucumber beetles are moderately abundant in general.
- J. N. Tenhet (January 15): This cucumber beetle has been unusually abundant and active all fall and winter at Fairfax. Apparently it has not gone into winter quarters at all, as it has been observed almost every week since September. During the early fall, autumn flowers - chrysanthemums, Michaelmas daisies, etc. were severely injured. At present, all garden crops are being more or less injured. Strawberry blossoms are also being injured by them.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

- South Carolina A. Lutken (February 22): D. balteata is moderately abundant on turnips in Colleton County.
- Mississippi H. Dietrich (February 21): The banded cucumber beetle has been active all winter in George, Greene, and Perry Counties, nearly as common as D. duodecimpunctata. This beetle was not observed during the two previous winters.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Mississippi C. Lyle and assistants (February): The striped cucumber beetle was reported as very abundant at Gulfport, February 15, and moderately abundant at Meridian, February 20. (Abstract, G. M.)

FLEA BEETLES (Malticinae)

Mississippi H. Dietrich (February 21): Fleabeetles (Phyllotreta bipustulata Fab., P. vittata Fab., Systema tenebriosa Say) were very abundant on young turnip greens at Lucedale on February 12 and did considerable damage by eating the foliage full of holes.

A BLISTER BEETLE (Meloe americanus Br. & Er.)

Tennessee S. Marcovitch (January 18): This oil beetle, sent in from Whitewell, was reported as attacking mustard.

FALSE CHINCH BUG (Nysius ericae Schill.)

North Carolina W. J. Reid, jr. (February 21): The false chinch bug was found in moderate numbers on garden plantings of turnip and mustard. Approximately 25 per cent of the plants were affected.

South Carolina A. Lutken (February 22): False chinch bugs are abundant on truck crops in the southeastern part of the State.

J. N. Tenhet (January 15): The false chinch bug is seriously injuring vegetables in several gardens around Fairfax. Lettuce, cabbage, mustard, turnip, and carrot are known to have been attacked. Several plantings of mustard and turnip have been killed.

Georgia W. J. Reid, jr. (February 19): An unusually heavy infestation of the false chinch bug has caused serious injury to turnip and mustard in garden and small-scale commercial plantings at Waycross. According to the growers the insect first appeared on the garden plants during the latter part of December, and since that time the pest has gradually increased in numbers and destructiveness; the early plantings were entirely destroyed and were abandoned. The false chinch bug was taken from chickweed, life everlasting, sour dock, and grasses.

Mississippi C. Lyle and assistants (February): The false chinch bug was very abundant during the fall on truck crops, particularly turnip; damage continued into January in Lauderdale, Green, and George Counties. Specimens were received from Sturgis on February 4 with a report that they were very abundant on turnips. (Abstract, G. M.).

THREE-CORNERED ALFALFA HOPPER (Stictoccephala festina Say)

Mississippi H. Dietrich (February 21): The three-cornered alfalfa hopper has been active in numbers all winter near Lucedale and at Merrill on turnips, collards, mustard greens, and peas.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Alabama K. L. Cockerham (February 25): This insect was found quite generally over a 5-acre field of early planted corn at Foley.

Mississippi

C. Lyle (February 22): Injury to onions by the larvae was reported from Florence early in January and from Laurel on February 11. Inspector R. P. Colmer reported serious injury to English peas at Kreole, on January 23, while Inspector F. P. Amsler found these insects injuring iris bulbs at Gulfport on January 29.

PILLBUGS (Oniscidae)

Mississippi

C. Lyle and assistants (February): Numerous complaints are being received from the southwestern corner of the State of injury by pillbugs to strawberries and flower gardens. (Abstract, G. M.)

PEAS

PEA APHID (Illinoia pisi Kalt.)

Virginia

H. G. Walker (February 26): Pea aphids were observed actively feeding in alfalfa on February 4.

Alabama

J. M. Robinson (February 23): Plant lice are reported on English peas at Troy.

Mississippi

H. Dietrich (February 21): The pea aphid was first observed in numbers on peas at Lucedale on February 17 but since then has been found all over George County and threatens the crop of about 200 acres unless measures are taken to reduce the infestation. It is also reported from other points in southern Mississippi.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

South Carolina

A. Lutken (February 22): Common cabbage worms have been active throughout the winter in Charleston County.

Georgia

J. B. Gill (February 22): The imported cabbage worm has been very abundant and damaging to cabbage in Cairo and Calvary Counties during the winter.

Mississippi

C. Lyle and assistants (February): The imported cabbage worm was present on collards all winter and is now attacking young cabbage in the southern part of Jackson County; the first adults at Lucedale were observed flying over cabbage fields on February 8, and since that time they have become very numerous. (Abstract, G. M.)

DIAMONT-BACK MOTH (Plutella maculipennis Curt.)

Virginia

H. G. Walker (February 26): The diamond-back moth has been present in kale fields at Norfolk throughout the winter. The present indications are that this insect will be very troublesome this spring unless its natural enemies tend to hold it in check more than they did last year.

South Carolina

W. J. Reid, jr. (December 18): The diamond-back moth is very abundant on winter collards and cabbage in the vicinity of Charleston. As many as 50 larvae have been found feeding on one collard leaf. The market value of the crops is being seriously lessened because of the feeding. (February 24): Cabbage plantings in this section are showing the heaviest infestation ever witnessed by the writer. All commercial plantings examined show infestation. A count in one of the typically infested fields showed an infestation of 85 per cent of the plants. The plants in many instances are being riddled. This infestation of spring cabbage followed one on the winter cabbage and collard plantings. Development of the species progressed unchecked during the unusually mild, dry winter.

Georgia

J. B. Gill (February 22): This insect was commonly observed on cabbage and collard plants in southern Georgia during the winter.

W. J. Reid, jr. (February 19): Found in moderate numbers on garden mustard plantings in the Waycross section.

Texas

S. W. Clark (January 19): This insect is very abundant and causing considerable damage to heading cabbage at Weslaco. In most cases the variety Glory of Enkhuizen is the most severely infested.

CABBAGE LOOPER (Autographa brassicae Riley)

Mississippi

C. Lyle and assistants (February): The cabbage looper has been present all winter on collards and was noted February 19 attacking young cabbage in the southern part of Jackson County. The first larva to be observed at Lucedale was noted on collards January 21. By the middle of February it was noted in moderate abundance around Long Beach, Harrison County. (Abstract, G. V.)

CABBAGE WEBWORM (Hellula undalis Fab.)

South Carolina

W. J. Reid, jr. (December 18): The cabbage webworm is now proving very destructive to young cabbage plants in the beds seeded for transplanting the spring crop. The infestation is general throughout the Charleston section. One bed examined showed an infestation of 25 per cent and another of 48 per cent of the plants. The buds of the plants are being at-

tacked, most of the affected plants being rendered unfit for transplanting.

Mississippi

C. Lyle and assistants (February): Larvae were extremely abundant in gardens in George County during November, 1931. The insect was also reported from Harrison County.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia

H. G. Walker (February 26): A very heavy infestation of cabbage aphids developed on kale last November but practically 100 per cent of these insects were killed by a fungus disease the latter part of the month and have not been numerous enough since then to cause any damage.

South Carolina

A. Lutken (February 22): Aphids on broccoli have been very destructive in Beaufort County.

Georgia

J. B. Gill (February 22): The cabbage aphid was very abundant on collard plants in southern Georgia during the winter.

Mississippi

J. P. Kislanko (February 15): Infestations were rather heavy in Stone and Forrest Counties, but today all observed colonies were very heavily parasitized.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia

L. W. Brannon (February 24): Frequent field observations on winter activity and hibernation were made at Norfolk during November and December, 1931, and January and February, 1932. At temperatures below 50° F. (at time of observation) the adults were found in temporary hibernation in the folds of dead leaves beneath the plants; at higher temperatures they were active and feeding throughout the winter. During this exceptionally mild winter newly laid eggs have been found during each week of the months listed. On February 18, 9 newly laid egg masses were found on collard plants, and on February 5 newly hatched eggs were found. Nymphs have been found during each month and continued to develop into adults during the winter. Nymphs have been found in temporary hibernation in the folds of dead leaves alongside adults in January. One egg mass which was collected in the field on January 22 hatched in the insectary on February 12. The egg parasite Ooencyrtus johnsoni How. emerged on January 8 from eggs which were collected in the field on January 5.

Georgia

J. B. Gill (February 22): The harlequin bug is very abundant, especially on collards in Albany and in southern Georgia.

Virginia

C. R. Willey (February 23): Specimens were received from Roseland February 12 and damage to cabbage was reported.

CELERY

CELERY LEAF TIER (Phlyctaenia rubigalis Guen.)

Florida

J. R. Watson (February 23): The celery leaf tier has been giving much trouble in the Sanford area.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Mississippi

C. Lyle and assistants (February): The onion thrips was found extremely abundant on field onions at Lucedale on February 18; a moderately abundant infestation has been reported from the southern part of Jackson County. (Abstract, G. M.)

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

South Carolina

W. J. Reid, jr. (December 18): Young cabbage plants growing in beds for transplanting the spring crop are being seriously injured. The infestation is quite general in the Charleston area. One plant bed showed an infestation of 100 per cent of the plants. The growers fear that the infestation will reduce the plants to the extent that they will not have sufficient plants to set the spring crop.

Mississippi

C. Lyle and assistants (February): During December, 1931, turnip aphids were noted in moderate abundance on turnip in Lincoln, Copiah, and Jeff Davis Counties, and so abundant in Green, George, and Perry Counties as to destroy many crops. (Abstract, G. M.)

CARROTS

CARROT RUST FLY (Psila rosae Fab.)

Washington

W. W. Baker (February): Growers are beginning to worry some about this pest on carrots and parsnips in Puyallup Valley, Although only a few reports have been received of damage on the latter crop, perhaps because of the smaller acreage. So far no reports have been received of damage to celery in this section.

LETTUCE

CORN EAR WORM (Heliothis obsoleta Fab.)

Florida

E. W. Berger and G. B. Merrill (February 22): A few specimens were collected and reared from among the bases of the leaves, next to the core of loosely-growing head-lettuce (Iceberg). Saw no signs of boring through leaves but evidently crawled in among leaves to cores.

STRAWBERRY

STRAWBERRY PANERA (Orthaea vineta Say)

Florida

J. R. Watson (February 23): The panera, that we do not ordinarily expect until April, has been troubling us all winter.

CRANE FLIES (Tipulidae)

Oregon

J. Wilcox and W. W. Baker (November 19, 1931): Larvae about $1\frac{1}{2}$ inches long found right down in the roots of strawberry plants; from 2 to 16 per plant. Some evidence of the smaller roots being eaten but did not appear to be serious. Another infestation at Lexington was examined but the plants were so heavily infested with the root weevils Brachyrhinus ovatus L. and B. rugosostriatus Goeze that it was impossible to tell whether the tipulids were doing injury or not.

TOBACCO

TOBACCO FLEA BEETLE (Ebitrix parvula Fab.)

North Carolina

Z. P. Metcalf (February 26): The tobacco flea beetle is very abundant in tobacco beds in the eastern half of the State. It is more abundant and destructive than I have seen it in a number of years.

Alabama

K. L. Cockerham (February 25): The tobacco flea beetle was observed to be quite numerous on volunteer Irish potato plants at Foley on this date.

FOREST AND SHADE-TREE INSECTS

CANKER WORMS (Geometridae)

Kansas

H. B. Hungerford (February 15): We had a rather heavy emergence of the fall canker worm in Lawrence during December and January.

R. L. Parker (February 23): The first emergence of canker worms at Manhattan was noted on January 5. The first spring canker worm (Paleacrita vernata Peck) female was recorded on January 25 while the highest emergence of females representing the fall canker worm (Alsophila pometaria Harr.) was recorded on February 9. The highest emergence of males including both species occurred on February 9. The highest emergence of spring canker worm females to date occurred on February 22.

FALL WEBWORM (Hyphantria cunea Drury)

Maine

H. B. Peirson (February 23): Nests contain large numbers of Apanteles cocoons, which would indicate that the heavy outbreak of last year will subside.

WALKINGSTICK (Diapheromera femorata Say)

Michigan

S. A. Graham (January 20): The walkingstick, which in 1930 caused a great deal of defoliation in certain of the forests in the northern part of the lower peninsula, did not make its appearance in 1931. This was somewhat of a surprise in spite of the fact that some of the local people had told me previously that outbreaks only occurred every other year. Search in the litter beneath the trees indicated that the eggs normally pass through two winters before hatching. The ground at the present time in those places where the insects were abundant last year is literally peppered with eggs. In some spots they run as high as 50 or more per square foot. Doubtless next year will see another outbreak of this insect. The holding over of the eggs which I have just described is evidently the result of the action of some physical condition which we do not understand, because eggs collected in the fall of 1930 and kept outdoors in Ann Arbor hatched last spring, whereas those that lay on the ground in the locality where they were laid failed to hatch.

COYSTIF-SHELL SCALE (Lepidosaphes ulmi L.)

Maine

H. B. Peirson (February 23): Poplar, white birch, and mountain ash were killed at Bar Harbor in December, 1931.

BEECH

BEECH SCALE (Cryptococcus fagi Baer)

Maine H. B. Peirson (February 23): Outbreaks reported in Liberty, Montville, Washington, Somerville, and Palermo were reported during November and December, 1931. First appearance in State.

FIR

AN APHID (Dreyfusia picea Ratz.)

Maine H. B. Peirson (February 23): One thousand cords of fir were killed by this insect at Milbridge in 1931.

HEMLOCK

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

New York P. J. Parrott (February 23): The strawberry root weevil has been injuring hemlock roots in western New York.

MAPLE

ORIENTAL MOTH (Cnidocampa flavescens Walk.)

Massachusetts E. P. Felt (February 24): Cocoons of the oriental slug caterpillar were received from Nahant, where the insect was evidently abundant upon Norway maple.

AN AMBROSIA BEETLE (Xyloterinus politus Say)

Rhode Island E. P. Felt (February 24): An ambrosia beetle, X. politus, was found working in a limb of a Norway maple in the Providence area. This insect occasionally attacks apparently healthy trees, though serious injury does not appear to develop from its operations.

GLOOMY SCALE (Chrysomphalus tenebricosus Const.)

North Carolina Z. P. Metcalf (February 26): The gloomy scale is widespread and apparently more destructive than for the last couple of years.

Mississippi J. Milton (February 22): The gloomy scale is present in large numbers on maple trees in Corinth and northeastern Mississippi. In many cases the scale has killed so many branches that it has made the trees very unsightly.

OAK

OBSURE SCALE (Chrysomphalus obscurus Comst.)

Mississippi J. Milton (February 22): The obscure scale is very abundant on oak in Corinth; it is killing many limbs and weakening the whole tree.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Massachusetts E. P. Felt (February 24): The European pine shoot moth was reported by Mr. C. C. Hartney as prevalent at Brookline.

New England E. P. Felt (February 24): This insect is locally abundant in southern New England and southeastern New York, occasionally infesting seriously entire plantings.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Scudd.)

Pennsylvania J. N. Knull (January 29): A small plantation of jack pine and shortleaf pine at Whitford was found heavily infested. The trees had been severely damaged for a number of years. A heavy infestation was found near Reading in a plantation of pitch pine, Scotch pine, Jersey scrub pine, shortleaf pine, and red pine. The insect seemed to show a preference for the shortleaf pine.

SPRUCE BUDWORM (Harrologa funiferana Clem.)

Michigan S. A. Graham (January 20): The spruce budworm continued its injury during 1931 to the hard pines, especially to jack pine and Scotch pine plantations. The latter was especially seriously injured and some of the plantations in the Higgins Lake Forest may be practically wiped out. The damage to jack pine is somewhat less and to Norway pine the injury is by no means general. The most severe injury seems to have occurred in the neighborhood of old trees. In some places it appears likely that the infestation will not be so severe during 1932 as it was in 1931. In other places even in the same locality the infestation seems to be on the increase. In those places where the infestation is probably declining, a marked change in sex ratio was observed. Previously the sexes were approximately equal in number but this year from 75 to 80 per cent of the moths were males.

SOUTHERN PINE WEEVIL (Pissodes nrorensis Germ.)

Mississippi H. Dietrich (February 21): P. nrorensis was again very abundant on Cedrus doodara throughout the winter, doing considerable injury by feeding and girdling the main shoot, but does not seem to have oviposited on Cedrus. An adult was taken in the debris

at the base of a freshly cut Pinus glabra near New Augusta on February 11.

PALES WEEVIL (Hylobius pales Boh.)

Mississippi

H. Dietrich (February 21): Active all winter in George and Greene Counties on injured pines and fresh pine lumber. At Lucedale taken often feeding on injuries made on Cedrus deodara by Pissodes nemorensis.

SPRUCE

SITKA SPRUCE WEEVIL (Pissodes sitchensis Hopk.)

Washington

W. W. Baker (November 11, 1931): A number of Sitka spruce trees close to the road were observed to be infested at Snoqualmie.

WILLOW

WILLOW CURCULIO (Cryptorhynchus lapathi L.)

Washington

W. W. Baker (February): During the winter months evidence has been secured of infestations of willows over a considerable area around Puyallup and Tacoma. Strange to say, only native species of willow have so far been found to be infested.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

AN AMBROSIA BEETLE (Anisandrus sayi Hopk.)

New York

E. P. Felt (February 24): An ambrosia beetle, provisionally identified as A. sayi, attacked the larger stems of greenhouse grapes on Long Island in large numbers. The infested stems were approximately an inch and a half in diameter and produced literally hundreds of beetles.

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

North Dakota

J. A. Munro (February 23): Reports of serious injury to ferns and other house plants by the greenhouse whitefly have been received recently from Dazey, Barnes County, and Regent, Hettinger County.

CYCLAMEN

CYCLAMEN MITE (Tarsonemus pallidus Ems.)

Ohio E. W. Mendenhall (January 9): Cyclamen plants were badly infested with the cyclamen mite in one of the greenhouses in Fostoria. They were so bad that the buds were badly injured, rendering the plants unsalable.

GLADIOLI

GLADIOLUS THRIPS (Taeniothrips gladioli Moulton)

Florida J. R. Watson (February 23): The gladiolus thrips has been sent in from Stuart and Sanford, the first reports from Florida.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Missouri L. Haseman (February 22): Mosquitoes: Species of Culex and Amopheles have carried over in greater numbers than usual in basements.

Mississippi C. Lyle and assistants (February): Mosquitoes, including the salt-marsh mosquito (Aedes sollicitans Walkr.), and the yellow-fever mosquito (A. aegypti L.) have been very annoying in south-eastern Mississippi all winter. (Abstract, G. M.)

CHIGGER (Trombicula irritans Riley)

Texas F. C. Bishopp (February): A few chiggers were picked up by the writer in Brownsville (in town) with little time spent in grass and none in woods and brush. Mr. Schroeder says that he had a good many chiggers on him this winter.

CASTOR BEAN TICK (Ixodes ricinus var. scapularis Say)

Mississippi H. Dietrich (February 21): Woodticks have been active all winter, judging by several collected in the Pascagoula Swamp, George County. Two were identified by F. C. Bishopp as I. ricinus var. scapularis.

BLACK WIDOW (Latrodectus mactans Fab.)

- Maryland P. Knight (February 16): We have made numerous collections of this spider during the winter, both at College Park and in southern Maryland. In my 7 years at the University this is the first season I have collected these animals.
- Mississippi State Plant Board Press Release (January 18): A specimen of the "black widow" or hourglass spider was received by the Department of Entomology recently with the statement that it had bitten a lady near Anory with very serious results. Severe pain began immediately after the bite, and within an hour her entire body was jerking with muscular spasms. Her lower limbs also became partially paralyzed and her suffering, which she reported as the most severe in her life, was eased by hypodermic injections. She was in bed suffering greatly for three days and two nights, and did not fully recover for nine days.
- H. Dietrich (February 21): The black widow (L. mactans) is unusually common this winter in George, Greene, and Perry Counties. Every piece of wood lying on the ground in cut-over lands has one or more of these spiders under it. As this wood, locally called lighter, is gathered extensively for fuel and fenceposts, there is considerable danger of a person being bitten.
- BOXELDER BUG (Leptocoris trivittatus Say)
- Maryland E. M. Cory (February): We have received a number of letters stating that this pest has been active on warm days.
- Illinois W. P. Flint (February 22): Boxelder bugs have been active throughout the entire winter and have caused a great amount of annoyance because of their continued invasion of houses.
- Kentucky W. A. Price (February 24): Boxelder plant bugs were abundant about houses on February 11, at Elizabethtown.
- Wisconsin E. L. Chambers (February 24): The boxelder bug is still causing some concern in some sections where, during the warm spring-like days, it became active and continued crawling into and about homes.
- Iowa H. E. Jaques (February 22): On the warmer days boxelder bugs are much in evidence.
- Kansas R. C. Smith (February 23): Boxelder bugs are very active and are causing considerable annoyance in residences at Manhattan.
- Utah G. F. Knowlton (February 23): Boxelder bugs are now commencing to cause some annoyance in houses, since the weather has at times permitted activity and emergence from hibernation.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Maryland

A. L. Sullivan (January): The tropical rat mite has been reported in Baltimore attacking humans. Specimens were sent in from a seed house.

CATTLEA BUFFALO GNAT (Eusimulium pecuarum Riley)

Mississippi

C. Lyle (February 22): Buffalo gnats appeared in the Delta section of Mississippi about January 15, probably the earliest date on record for this section. They are reported as present in injurious numbers in practically all counties of the Mississippi Delta. No serious loss of livestock has yet occurred.

CATTLE GRUBS (Hypoderma spp.)

North Dakota

J. A. Munro (January and February): Reports of grubs in the backs of cattle have been received from Dickey, Golden Valley, and Rolette Counties during January and February. Officials of the local meat-packing plant state that a large number of cattle badly infested with cattle grubs were received during these two months.

Kansas

E. G. Kelly (February 23): Cattle grubs are more abundant in Kansas than usual. Puparia have been picked up off the ground where they have dropped and adults have emerged from them when the puparia were retained in the laboratory at Manhattan.

HORN FLY (Haematobia irritans L.)

Florida

W. G. Bruce (January): Stockmen report and observations show that the hornfly is giving more trouble in Florida than usual.

Texas

H. O. Schroeder and F. C. Bishopp (January): Hornflies are present in moderate numbers, 5 to 50 per head. The dairymen report that these flies have been very troublesome all winter. The cows show severely irritated spots at the base of the tail and along the scutcheon and in the navel region from bites.

SCREW WORM (Cochliomyia macellaria Fab.)

Texas

H. O. Schroeder and F. C. Bishopp (January): A freshly killed calf by the roadside 6 miles east of Rio Grande City was examined and several hundred blowflies were found on it. Of these there were about 1 Phormia regina Meig. to 15 Cochliomyia macellaria. The day was mild but the sun was not shining.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

General

T. E. Snyder (January): During the month of January 74 cases of termites were reported to the Bureau of Entomology. The following list gives the number of cases reported from each Section. New England, 2; Middle Atlantic, 13; East Central, 10; West Central, 4; Cotton Belt, 29; Pacific Coast, 6.

A TERMITE (Kaloterres simplicornis Eks.)

Arizona

A. H. Caldwell, jr. (February 7): This termite was brought to my attention by a local control man at Phoenix. The interesting thing about this particular one is its habit of not living in the wood alone, as do the other Kaloterres, but it has its headquarters underground.

ANTS (Formicidae)

Mississippi

C. Lyle and assistants (February): A number of native species of ants which ordinarily are noticed during the warm summer months have been active throughout most of the winter. Fire ants (Solenopsis sp.) were very abundant in sweetpotatoes banked in the open at Carthage, Durant, Lexington, and Lena, February 21. New infestations of the Argentine ant (Iridomyrmex humilis Mayr) were discovered at Harrison on January 23 and at Chester on February 18. (Abstract, G.M.)

Alabama

J. M. Robinson (February 23): Argentine ants are reported at Auburn, Mobile, and Palos.

Louisiana

Club and Extension News, Vol. 11, No. 4 (January): The Argentine ant is quite numerous in Concordia Parish.

A SPIDER BEETLE (Mezium americanum Lap.)

Maine

H. B. Peirson (February 23): This spider beetle was observed January 27 in Gardiner. Fur coats and clothing were infested.

HOUSE CRICKET (Gryllus domesticus L.)

Michigan

R. H. Pettit (January 9): The European cricket was found on January 7 at Birmingham. I believe this is the first record in our State.

A SNOW FLEA (Achorutes sp.)

Wisconsin

E. L. Chambers (February 24): We have had several reports from northern Wisconsin cities, to the effect that the snow flea was unusually abundant.

INSECT CONDITIONS IN PORTO RICO OCTOBER 1, 1931, TO JANUARY 31, 1932.

M. D. Leonard

Insular Experiment Station, Rio Piedras, Porto Rico.

The coffee leaf miner (Leucoptera coffeella Stainton) has been, according to Vicente Medina, Coffee Specialist at the Insular Experiment Station, more abundant during December, 1931, and January, 1932, than during the two previous months, owing to generally dry weather throughout the coffee-growing districts.

A leaf skeletonizer (Brenthia pavonacella Clem.) was reported by F. Sein, jr., as badly skeletonizing the leaves of Inga sp. an important coffee shade tree, throughout the coffee growing districts in general during December, 1931. This pest was generally present and badly skeletonizing these shade trees on a large coffee farm in the vicinity of Adjuntas (the Hacienda Carreolita) in September, 1931. It had not previously been recorded as injuring a plant of economic importance.

The cotton leaf worm (Alabama argillacea Hbn.) was reported as present on cotton in small numbers but easily controlled by two applications of poison on December 21, 1931, and January 15, 1932, respectively, and that in general throughout the South Coast up to February 1, 1932, it has apparently been almost negligible as far as the necessity for control measures was concerned.

The pink boll worm (Pectinophora gossypiella Saund.), according to all reports received has been very much less abundant and injurious to cotton in the whole South Coast during the period October, 1931, to and throughout January, 1932, than during January, 1931, for instance, when considerable percentages of infestation could be found. It has been suggested that a considerably greater rainfall this year than last during the same period may have been a large factor in this decrease. As late as January 20, 1932, J. Pastor Rodriguez, Cotton Specialist at the Insular Experiment Station, reported that a 1-acre field which was badly infested last year now showed less than 1 per cent infested bolls and that a near-by field was only about 5 per cent infested.

Owing to the extremely wet winter, the fall armyworm (Laphygma frugiperda S. & A.) has been exceptionally abundant, not only on corn, which one expects, but also inside pepper fruits, in tomatoes, inside lima bean pods, and causing most injury to eggplant, burrowing in the stems and attacking the fruit. Eighty per cent of the fruit one week was ruined by their feeding. (G. N. Wolcott.)

The melon worm (Dianthia hyalinata L.) was causing considerable foliage injury on January 1, 1932, to young cassava melon vines at Loiza; moderate damage was observed to squash foliage at Vega Alta in November, 1931, and to cucumber at Manati in January, 1932. In a well-sprayed cucumber field at Barceloneta only slight damage was caused to the leaves. (A. S. Mills.)

A bean pod borer (Maruca testulalis Goyer) was found to infest 2 per cent of 100 bean pods examined in the market at Rio Piedras on October 31, 1931 (C. G. Anderson; Carl Heinrich det.). During January, 1932, a light infestation was found in a small package of pigeon peas from Aguas Buenas but none were found in boxes of pigeon peas from several other places. Lima bean pods were lightly infested also at Vega Baja and Rio Piedras. (A. S. Mills.)

The caterpillars of Etiella zinckenella Treit. absolutely disappeared from lima beans early this fall, while Maruca, the pest against which the quarantine regulations are directed, is equally scarce this winter. (G. N. Wolcott.)

A bean leaf webber (Lamprosema indicata Fab.) was found to be moderately to heavily infesting all lima bean fields examined during November, December, and January at Rio Piedras, as well as at Loiza, Vega Baja, and Isabela, the larvae tying the leaves together and eating them.

A light infestation of Cerhalonomyia gallicola Ashm. was found in a package of chickpeas in Santurce on November 11, 1931. (R. G. Oakley.)

A squash bug (Anasa scorbutica Fab.) was observed lightly infesting a 2-acre planting of squash at Vega Alta on November 24, 1931. (A. S. Mills.)

A light infestation of the bug Coreocoris batatas Fab. was noted on the leaves of a 5-acre field of pepper at Vega Alta on December 29, 1931. (A. S. Mills.)

A leaf bug, Cyrtopeltis varians Dist., was found lightly infesting the foliage of a 3-acre field of tomatoes at Loiza on November 6, 1931. (A. S. Mills.)

A eurytomid, Bemhrata cubensis Ashm., was found infesting one out of four fruits (Annona reticulata) examined at Villalba, October 27, 1931. (C. G. Anderson; C. F. Muesebeck det.)

A scolytid beetle, Kyleborus sacchari Hopk., was reported as infesting two out of ten guava fruit examined at Cabo Rojo on September 16, 1931. (A. G. Harley.)

A leaf-footed plant bug, Lentoglossus stigma Hbst., was found to be abundant on the leaves of three guava bushes examined at Cidra on November 13, 1931, and many adults were found on a guava bush at Trujillo Alto on October 23, 1931. (A. S. Mills.)

A nitidulid beetle, Stelidota geminata Say, was found feeding in the exocarp of bitter almond (Terminalia cataoba) nuts at Anasco, September 29, 1931. (A. G. Harley.)

A nitidulid beetle, Urophorus humeralis Fab., was observed in bitter almond (Terminalia catappa) fruits and Jobo (Spondias dulcis) at Arecibo, in October 1931. (R. S. Oakley)

A lepidopterous shoot borer, Hyposiphya grandella Zell. (Heinrich det.) was reported on June 11, 1931, as injuring to a considerable extent about 4,000 trees planted among coffee for shade at Jayuya, and on June 29, 1931, 1,000 young trees recently planted in a coffee farm at Adjuntas. In mid-July F. Sein, jr., reported a number of young trees moderately infested in the Rural School planting at Laros.

Specimens of a ridge, Seiara sp., which is a very serious pest of man and toads, were found near lights in the vicinity of Isabela. The ridges first became noticeably abundant on October 28, rapidly increasing in abundance for the next two or three days, and gradually decreasing in numbers towards the middle of the month. They again became very abundant on November 28, and are still enormously abundant each night around lights (December 7). We eat dinner in the dark, and have entirely given up reading at night. By keeping a light on the porch we are able to manage some activities at night. It was to this light that the toads were accustomed to come each night and eat bugs attracted to it, but since the plague of ridges, they have ceased to appear, although they are quite abundant in the surrounding region. The region infested by the ridges is known to extend as far along the coast on the north as Quebradillas, but I have no information as to their presence south of Aguadilla. They come mostly to lights nearer the ground, and people living on the second story of houses are little troubled by them. (G. N. W.)

To date, February 4, 1932, we have had three distinct waves of abundance of Seiara sp.; October 28 to November 4, 1931; November 28 to December 15; January 7 to January 14, 1932. During this period some were to be found every night, but in the last week or two I have noted absolutely none at lights. During the periods of maximum abundance we ate in darkness, even one or two candles on the table attracting too many for comfort, despite electric lights blazing on the porch on either side of the dining room. It was impossible to prepare food in the kitchen after dark, except under the darkness of the ventilating hood. Yet, bad as conditions were for us on the ground floor, in the adjoining servants' quarters upstairs over the garage, no ridges were present. (G. N. W.)

THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

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INSECT PEST SURVEY BULLETIN

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THE MORE IMPORTANT RECORDS FOR MARCH, 1932

Following the very mild winter, very severe storms, with unusually low temperatures, prevailed over much of the eastern part of the United States during March, and frost extended well into the Gulf region.

The situations with regard to the Hessian fly and the chinch bug have not materially changed since our last report, although it is believed by some observers that the extreme cold snap was somewhat deleterious to the latter insect.

The usual spring complaints of cutworm infestations were received from practically the entire southern half of the United States.

The sugarcane borer, which was developing rapidly prior to the cold weather, was very materially checked by the killing of a large part of the above-ground cane in Louisiana. The first adult was observed in that section on February 4, and eggs were first observed in the field on the 16th of that month.

Reports from South Carolina indicated that prior to March 26 a few codling moths emerged in outdoor cages; some had pupated about that time, but no adults emerged prior to March 21 in Georgia. The very cold weather that prevailed in the East Central States apparently had no deleterious effect on the larvae. Examinations made since the cold weather show from 90 to 95 per cent of the overwintering larvae alive in Illinois. At San Jose, Calif., pupation was taking place, but no adults had emerged by March 22.

Larvae of the eastern tent caterpillar are starting to emerge in the Gulf region. Reports of hatching were received from the first of the month on, from Arkansas, Mississippi, Missouri, and parts of Texas. This insect is more abundant in the latter State than it has been observed in many years.

Eggs of fruit aphids were reported as quite generally scarce throughout New England, and from moderately to very abundant over the East Central and Middle Atlantic States. The eggs of both the apple grain aphid and the rosy apple aphid have already started to hatch in the lower part of the East Central States.

The Florida red scale is reported as more abundant than it has been in several years in Florida; and a rather heavy infestation of the California red scale has been discovered near Yuma, Ariz.

During the early part of this year the vegetable weevil was found in Early, Muscogee, and Troup Counties, Georgia; in Washington, Bay, Gulf, and Calhoun Counties, Florida; and it was found in Butler, Montgomery, Macon, Chambers, Pike, Barbour, Russell, Dale, and Houston Counties, Alabama, in addition to the counties already known to be infested.

The seed corn maggot was reported during the entire month as more or less troublesome to potato seed pieces and corn seed along the South Atlantic seaboard and around the Gulf to Texas.

The chaga is attracting unusual attention by its damage to tobacco seed beds about Chadbourne, N. C.

The pea aphid is attacking Austrian peas, English peas, and garden peas at many points in Alabama, Mississippi, and Arizona.

The severe damage being done to cabbage in the South Atlantic and Gulf States during February continued well into March.

The white spruce sawfly (Diprion polytomum Htg.) has been reported from Bar Harbor, Me. This appears to be the first record of this insect for the United States.

A pine tip moth, Euetria rigidana Fern., is reported as causing serious injury to young pine trees at Jeanerette, La.

The Mexican mealybug Phenacoccus gossypii Towns. & Coll. is attracting considerable attention as a greenhouse pest in central and northern Ohio.

Strawberry plants and fruit suffered from a number of insect activities in the South Atlantic and Gulf States. Larvae of the green June beetle were reported as damaging the plants about Chadbourne, N. C. The bug Orthocentrus vincta Say, in the northern part of Florida, and the grave leafhopper, about Rocky Mount, N. C., were attacking the blossom stems. The fruit was being damaged by plant bugs in Alabama, by a beetle, Cryptiscus obsoletus Say, in Mississippi, and also by field crickets and garden slugs in that State. The beetle has heretofore, as far as we can ascertain, not been recorded as a pest of strawberries.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Connecticut

B. H. Walden (March 24): Nymphs of overwintering species of grasshoppers are moderately abundant.

Florida

J. R. Watson (March 21): Schistocerca americana Drury reported moderately abundant, more common than usual for March.

Minnesota

A. G. Ruggles (March 21): In the infested districts, as reported last year, eggs are extremely abundant. In one of our stops in the worst areas we found as many as 180 egg pods per square foot. These eggs have been brought in from time to time during the winter and in ten days are giving us all the way from a 95 to a 100 per cent hatch.

North Dakota

J. A. Munro (March 26): Recently numerous specimens of rather harmless species of grasshoppers have been received from Sheridan, Hettinger, and McLean Counties. These nymphs were picked up on bare spots of the open prairie and were reported as numerous in the eastern part of Sheridan County. Conditions have remained favorable for the eggs of the injurious species overwintering in the soil.

South Dakota

H. C. Severin (March 21): None of the overwintering eggs has hatched. Many letters are received reporting hatching, but upon investigation the nymphs were invariably species that normally hibernate as nymphs. The eggs of Melanoplus bivittatus Say and M. differentialis Thos. that were so abundant in 1931 have passed the winter successfully and we expect a large hatch this spring. Undoubtedly the extent of the area where serious trouble may be expected in 1932 is much larger than it was in 1931.

Missouri

L. Haseman (March 22): Egg packets are abundant and passing the winter in good shape.

Nebraska

M. H. Swenk (March 1 to 20): During the course of the winter farmers frequently reported the presence of nymphs in the fields, especially in sod lands. Many thought that these represented early-hatched individuals of the two-striped or differential grasshopper, which species were so abundant and destructive in parts of Nebraska in 1931. We have investigated a number of such reports including localities in Thayer, Nance, and Brown Counties, and find that in all cases they refer to one or more of four common species of banded-winged grasshoppers (Oedipodinae). The commonest species represented in these collections as a whole in the green-striped grasshopper, Chortophaga viridifasciata De G. In central and northern Nebraska the nymphs of two larger species, the coral-winged grasshopper, Hippiscus apiculatus Harr., and the northwestern red-winged grasshopper, Arphia

Missouri L. Haseman (March 22): Half grown larvae of the variegated cutworm were abundant in peach orchard at Sikeston February 25.

K. C. Sullivan (March 22): Cutworms are very abundant in southwestern Missouri.

Tennessee C. Benton (February 22): Cutworms have been reported active in many parts of Lincoln and adjacent counties. The first report was received February 8. Severe damage from their feeding has occurred this month at Fayetteville to hollyhocks, tulips, lilies, and iris.

Texas F. L. Thomas (March 22): Cutworms are moderately abundant in Presidio, San Antonio, and San Angelo on alfalfa, lettuce, and bitterweed (Helenium tenuifolium).

WHITE GRUBS (Phyllophaga spp.)

Kentucky W. A. Price (March 24): White grubs were destroying tomato plants in cold frames at Earlington on March 17.

Mississippi C. Lyle and assistants (March): There was a great deal of complaint of white grubs attacking truck in gardens in northern Mississippi during the fore part of March. (Abstract, J.A.H.)

Texas F. L. Thomas (March 22): Phyllophaga rubiginosa Lec. and P. hirtiventris Horn were taken at light March 16 at Wharton. P. calceata Lec. was taken at light February 26 at Bryan. P. congrua Lec. was taken at light March 3 at Dickinson.

A WIREWORM (Heteroderes laurentii Guer.)

Alabama K. L. Cockerham (February 25): Larvae were observed attacking seed corn which had been planted on February 17. The larvae were active and boring into the sprouted kernels.

JAPANESE BEETLE (Popillia japonica Newm.)

Pennsylvania T. L. Guyton (March 23): The Japanese beetle is appearing in greenhouses in Philadelphia.

New Jersey C. H. Hadley and assistants, Japanese Beetle Laboratory (February): The first shipment of Australian material arrived this month. The parasites are tachinids of the genus Palpostoma which deposit their larvae on adults of several genera of Scarabaeidae. The shipment arrived in good condition on February 13 and consisted of one case containing 5,056 puparia. This material was shipped from Australia January 18, by R. W. Burrell.

GREEN JUNE BEETLE (Cotinis nitida L.)

North Carolina W. A. Thomas (March 5): There have been an unusual number of complaints reaching the laboratory from Chadbourn regarding the destructiveness of these larvae to strawberry plants. This seems to be especially true where large quantities of straw mulch was turned under in the fields last summer and fall. Lawns as well as sod lands are exhibiting signs of grub activity. There are indications of a heavy grub infestation in this section.

CALIFORNIA TORTOISE SHELL (Aglaia californica Bdv.)

California E. O. Essig (March 6): A definite migration of California tortoise shell butterflies at Pt. Arena from south to north and west occurred from 1 to 3 p. m.

MONARCH BUTTERFLY (Danaus menippe Fab.)

Florida H. T. Fernald (March 21): I have watched the monarch butterfly all winter, as some claim it goes farther south to winter, but it has been plentiful at Orlando until this month. My last observation on February 29. Have they migrated farther south (doubtful); or have they died after laying eggs for a new generation here? I suspect the latter to be the case with some of them at least, as I took a fresh specimen (only a little over half size) April 9, 1931. Yet that same day I also took a full-sized, faded one.

COMMON RED SPIDER (Tetranychus telarius L.)

Missouri L. Haseman (March 22): Some growers in southwestern Missouri are alarmed over the abundance of red spider eggs.

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

HESSIAN FLY (Phytophaga destructor Say)

Ohio T. H. Parks (March 24): There are more overwintering larvae present than in the average year.

Missouri L. Haseman (March 22): The Hessian fly is wintering well and the situation is threatening.

Tennessee C. Benton (February): Pupation began in early February and increased to 20 per cent with slight emergence by the end of the month.

Kansas R. H. Painter (March 25): According to reports of the county agent, a field 2 miles south of Oskaloosa. is a total loss.

Nebraska

M. H. Swenk (March 22): Hessian flies are moderately to very abundant. During the last week in October and early in November the winter wheat in Phelps and adjacent counties developed a serious infestation. This infestation includes the whole of Phelps County, and extends northward over western and northern Buffalo County, eastward into Kearney County, southward into northern Harlan County and Franklin County, and westward into Gosper County (see my report of December 1). At the same time, what appeared at first to be a much less important infestation was found in Seward and Thayer Counties. Later, however, it was found that this more eastern area of infestation extended over much of Butler, Seward, Saline, Fillmore, Thayer, Jefferson, and Gage Counties, and also extended somewhat into adjacent counties. Wheat in this more eastern area that looked all right when the November snows covered the fields was brown and dead when the late January thaws exposed the plants, and many showed a heavy infestation with puparia. These infestations developed as a result of a much delayed emergence of the main fall brood, due to the hot dry conditions of September and October. The present situation points to the probability of extensive serious damage this spring.

WHEAT STRAW WORM (Harmolita grandis Riley)

Kansas

R. H. Painter (March 25): I found the wheat straw worm in a sack of straw February 26, and all emerged from the straw March 23. This insect was found among wheat plants in the field March 18, and is still present in the field.

CHINCH BUG (Blissus leucopterus Say)

Missouri

K. C. Sullivan (March 22): Chinch bugs are very abundant in central and western Missouri. Recent cold weather has been very helpful in so far as chinch bugs are concerned. A great deal of burning has been done during the past two months.

APHID (Aphiidae)

Tennessee

C. Benton (February): Aphids were observed to be abundant in a wheat plot at Fayetteville, February 22, and in two barley fields near Belfast February 26. The species has not yet been determined.

California

E. O. Essig (March 19): Dispersal migrations of winged grass and grain aphids were noted March 10 at Berkeley.

CORN

CORN LEAF APHID (Aphis maidis Fitch)

Louisiana

J. W. Ingram and E. K. Bynum (February 27): Four winged corn aphids have been collected on sticky paper in the field during

the month, indicating that this insect is beginning flight at this early date.

ALFALFA

ALFALFA CATERPILLAR (Eurymus eurytheme Bdv.)

Arizona

C. D. Lebert (March): Fourth instar larvae of the alfalfa caterpillar have been found in alfalfa fields. Some adults have been noticed, but they are not numerous as yet.

CLOVER ROOT CURCULIO (Sitona hispidula Fab.)

Kentucky

W. A. Price (March 24): The sitona beetle is doing serious damage to alfalfa in the vicinity of Independence. A survey of that territory on March 1 showed 3 or 4 beetles to nearly every plant.

GRASS

A NYMPHALID BUTTERFLY (Euphydryas perdiceas Edw.)

Washington

C. W. Getzendaner (March 21): Larvae are very abundant in spots on the open prairie, at Grand Mound, averaging about 12 per square foot and running as high as 27 per square foot.

A CRANE FLY (Tipula bicornis Forbes)

Missouri

I. Haseman (March 22): Larvae about one-half grown are beginning to attract attention again in central Missouri; they are very abundant in meadows.

A MARCH FLY (Bibio albipennis Loew)

Nebraska

M. H. Swenk (March 1 to 20): During the first week in March, farmers in the Republican Valley in Webster County found maggots of B. albipennis very numerous in cornfields, underneath old ears of corn lying on the ground, and inquired concerning their identity.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. E. Hinds (March 24): Adults began emerging by the middle of February and the first generation was getting well started under abnormally high winter temperatures. On March 9 the coldest weather of the winter occurred and the coldest March temperature since 1890, when 27° F. was recorded at New Orleans. This year the minimum temperature went to 25° at Baton Rouge and through the northern part of the Cane Belt, with freezing temperatures throughout the Belt. This cold killed back to the

ground the major part of the cane growth and also destroyed the first generation. It also resulted in materially increasing the mortality among pupae. The sugarcane growth above ground was not all killed in the southern part of the Belt and will recover quite promptly.

J. W. Ingram and E. K. Bynum (February 27): The first adult observed this year emerged on the 4th from a pupa collected in the field. Others have emerged during the month. The first eggs were observed on the side of a jar containing a few adults on the 12th. Eggs were first noticed in the field on the 16th. First-generation borers were found feeding in the tops of young cane shoots on the 19th. Three adults were collected at lights between 7.15 and 8 p. m. on the 26th.

W. A. Douglas (March 23): As a result of freezing weather early in March, it has been found that from 14 to 15 per cent of the borers in rice stubble were killed.

SUGARCANE BEETLE (Euethiola rugiceps Lec.)

Louisiana

J. W. Ingram and E. K. Bynum (February 27): Beetles began feeding on young sugarcane shoots during the last part of February. Numbers of "deadhearts" caused by the beetles were found on the 26th. One plantation laborer collected 83 beetles found attacking cane shoots on that date. The males found on young cane shoots have thus far outnumbered the females by about 5 to 3. No beetles have been collected at lights.

A WEEVIL (Anacetrus (Limnobaris) sp.)

Louisiana

W. E. Hinds (March 24): The activity of sugarcane rootstock weevils has continued and they were protected from the effects of the cold wave by their location below the surface of the ground.

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

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Pennsylvania

H. G. Hodgkiss (March 26): The codling moth is very abundant in the Cumberland Valley.

South Carolina

W. C. Nettles (March 26): Pupation is well advanced and a few moths have emerged in outdoor cages.

Georgia

C. H. Alden (March 21): The codling moth is very abundant at Cornelia. A few have pupated; there has been no emergence to date.

- Ohio T. H. Parks (March 24): Moderately abundant. Birds did not seem to destroy so many as usual during the winter.
- Illinois W. P. Flint (March 22): The recent spell of cold weather has apparently had little effect on overwintering larvae. Examinations since the cold weather show from 90 to 95 per cent of the overwintering larvae alive.
- Missouri L. Haseman (March 22): Codling moths seem to be wintering perfectly; a heavy spring brood is expected.
- Colorado G. M. List (March 23): The colding moth is very abundant.
- California G. S. Hensill (March 22): The first brood adults have not yet emerged at San Jose. Some are in pupae at present.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

- Missouri L. Haseman (March 22): Egg masses were reported as being abundant in the southern part of Missouri.
- Arkansas W. J. Baerg (February 29): Caterpillars are just beginning to hatch in Fayetteville; the egg masses are common on wild cherry, wild plum, and peach.
- Mississippi C. Lyle (March 21): The first tent caterpillars to be received at this office during 1932 were taken from a plum bush at Meridian on March 16 by Inspector M. L. Grimes. No injury had been caused.
- Texas F. L. Thomas (March 22): The apple tree tent caterpillar is more abundant at College Station than I have ever seen it. The red haw is being rapidly stripped and practically all bushes are infested with one or more nests. A temperature of 23° F. did not kill the worms.

APHIDS (Aphidae)

- Vermont H. L. Bailey (March 12): Short inspections of apple twigs in Windham, Washington, and Addison Counties indicate a scarcity of apple aphid eggs.
- Connecticut B. H. Walden (March 24): Eggs of the rosy apple aphid (Anuraphis roseus Baker) and the green apple aphid (Aphis pomi DeG.) are scarce.
- Delaware L. A. Stearns (March 24): Fruit aphids are moderately abundant.
- Pennsylvania T. L. Guyton (March 1): Eggs are very abundant in Lancaster and Franklin Counties.

- Ohio T. H. Parks (March 24): Orchard aphids have not hatched, and practically no dormant spraying has been done, as the weather has hovered around and below freezing for three weeks.
- Kentucky W. A. Price (March 24): Specimens of twigs of apple sent in from Beattyville, Berea, and Mayfield on March 3 and 4 were badly infested with the rosy apple aphid and the apple grain aphid (Rhopalosiphum prunifoliae Fitch).
- Michigan R. H. Pettit (March 23): Fruit aphid eggs are plentiful.
- Missouri K. C. Sullivan (March 22): Fruit aphids are moderately abundant in general.
- L. Haseman (March 22): Growers are worried about possible damage from rosy apple aphids again this spring. Some apple grain aphids began hatching at Columbia before the recent cold spell.
- Mississippi C. Lyle and assistants (March 21): Fruit aphids are scarce; there are a few apple aphids.
- Oregon D. C. Mote (March): Rosy aphids reported in Willamette Valley as hatching March 18. Buds just swelling on early varieties.

TREEHOPPERS (Membracidae)

- West Virginia L. M. Peairs (March 29): Treehoppers on apple at Martinsburg and vicinity. Extreme damage from egg-punctures in orchards kept in clover and alfalfa.
- SAN JOSE SCALE (Aspidiotus perniciosus Comst.)
- Delaware L. A. Stearns (March 24): The San Jose scale is somewhat more abundant than in years past.
- Pennsylvania T. L. Guyton (March 23): The San Jose scale is very abundant in Harrisburg. This is also true for the Cumberland Valley area.
- Illinois W. P. Flint (March 22): During the first week in March we experienced the coldest weather of the winter, with temperatures running close to zero even in the southern part of the State. This had the effect of killing some of the overwintering San Jose scale, reducing the percentage of live scale from between 60 and 70 per cent to between 35 and 50 per cent.
- Kentucky W. A. Price (March 24): San Jose scales are reported very abundant. The very mild winter seems to have favored this pest, which has been on the increase in the State during the past year. In many places the encrusted state has been reached. Females were actively reproducing at Peytonsburg on March 12.

Michigan R. H. Pettit (March 23): The San Jose scale is very abundant.

Missouri K. C. Sullivan (March 22): The San Jose scale is very abundant in general.

L. Haseman (March 22): The San Jose scale situation in the southern part of the State is alarming.

Texas F. L. Thomas (March 22): The San Jose scale is very abundant on peach and pear trees in El Campo.

Colorado G. M. List (March 23): A slight increase of the San Jose scale has been observed in Mesa and Delta Counties.

LEAFHOPPERS (*Cicadellidae*)

Connecticut B. H. Walden (March 24): Apple leafhopper eggs are very abundant.

APPLE FLEA WEEVIL (*Orchestes pallicornis* Say)

Ohio J. S. Houser (March 16): A heavy infestation of this insect occurred in the Twitchell orchards at Chillicothe (1931), and large numbers of the beetles entered hibernation. The purpose of this note is to record the heavy winter mortality due to the work of the fungus *Sporotrichum globuliform* which has taken place. The debris under some trees where examined yielded large numbers of the dead fungus-covered beetles and few if any living ones. Dead beetles were most abundant in the sections of the orchard that were not well drained.

SHOT-HOLE BORER (*Scolytus rugulosus* Ratz.)

Alabama J. M. Robinson (March 21): Shot-hole borers were observed on apple twigs at Bankston.

Mississippi C. Lyle and assistants (March 25): The shot-hole borer is very abundant in several orchards in northeastern Mississippi. The trees were weakened by the presence of the San Jose scale and other pests which gave the shot-hole borer a good opportunity to work.

EUROPEAN WILLOW BEETLE (*Flagiolera versicolora* Laich.)

Connecticut W. E. Britton (March 22): The beetles were abundant hibernating under dead bark of an apple tree in Ridgefield.

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

Vermont H. L. Bailey (March 12): Very few eggs of the European red mite were found in such inspections as have been made.

A MITE (Eriophyes sp.)

California

E. O. Essig (March 19): Eriophyes sp. was abundant in the buds of apple trees in the Yosemite National Park February 22. Last summer the leaves showed very serious injury because of the mite.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia

O. I. Snapp (March 21): Growers are reporting this insect to be more abundant than usual in Fort Valley, which may be due to the prolonged oviposition period last fall. Eggs were deposited as late as November 8, and under orchard conditions they hatched as late as December 1.

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

Georgia

O. I. Snapp (March 21): Adults were observed in orchards today in Fort Valley. This is an early record, and is undoubtedly due to the very mild winter.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)*

South Carolina

W. C. Nettles (March 26): Oriental fruit moths are emerging and some eggs have been laid in outdoor cages.

Georgia

C. H. Alden (March 22): Oriental fruit moths are scarce in Cornelia. The first moth was observed on March 19.

Illinois

W. P. Flint (March 22): S. C. Chandler reports that the oriental fruit moth pupation started at Carbondale on March 17.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Kansas

E. G. Kelly (March 25): We have an insect much harder to control and one that caused much damage, unnoticed before last year, and that is the peach twig borer.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia

O. I. Snapp (March 21): Adults have not yet started to appear from hibernation in Fort Valley. Indications point to a late start for this insect this year, in which case a second-brood attack would not be anticipated.

*Correction - The note by W. H. Clarke, published in the Insect Pest Survey Bulletin, March, 1932, page 17, in next to the last line, "only 25 per cent" should be corrected to read, "only .25 per cent."

Kansas

H. R. Bryson (March 25): A report of A. M. Walker of Pittsburg, to E. G. Kelly, was as follows: "With the peach crop destroyed in 1930, the curculio was almost exterminated and with peaches and plums both killed completely and no thorn for it to breed in, we should not be bothered with the curculio for a few years."

RASPBERRY

RASPBERRY FRUIT WORM (Byturus unicolor Say)

Washington

W. W. Baker (March 18): Observed attacking loganberry at Auburn. This is the earliest date at which I have ever found the adults above ground. This may have been due to the fact that the soil was flooded for a couple of weeks. However, the adults in the soil were apparently uninjured by the standing water.

A CURCULIONED (Geoderces melanothrix Kby.)

Washington

W. W. Baker (March 8): There has been very little if any evidence that this weevil has as yet started to feed on the raspberry buds, but they were above ground in large numbers although a few were still in the pupal chambers in Puyallup.

RED-NECKED CANE BORER (Agrilus ruficollis Fab.)

Mississippi

C. Lyle (March 21): Young berry twigs injured by A. ruficollis were received from Columbus on March 17. The correspondent indicated that only slight injury had been observed. Injury by this species to young berry plants was reported from Hurley on March 18.

BLACK-HORNED TREE CRICKET (Oecanthus nigricornis quadri-
punctatus Beut.)

Nebraska

M. H. Swenk (October to February 29): In Wayne County a heavy infestation of raspberry canes with the eggs of the black-horned tree cricket (Oecanthus nigricornis) was reported about the middle of November.

PLUM

FEAR THRIPS (Taeniothrips inconsequens Uzel.)

Oregon

S. C. Jones (March): A few found on wing March 12. March 15 were found coming out in cages and on March 21 were emerging in large numbers.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Nebraska

M. H. Swenk (October to February 29): On February 26, with a sudden onset of warm and springlike weather, in Hamilton County, an abundance of active adult grape leafhoppers (Erythroneura sp.) was noted in the vicinity of a farm vineyard.

California

J. F. Laniman (March): The grape leafhopper is very abundant in the central San Joaquin Valley.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Mississippi

G. L. Bond (March 19): The grape vine borer was reported at Louin as doing considerable damage to grapevines.

Colorado

G. M. List (March 23): The apple twig borer has been unusually abundant in the Arkansas Valley on grapes during the past two seasons. Several inquiries have been received lately indicating that they are quite numerous again.

PACIFIC RED SPIDER (Tetranychus pacificus McG.)

California

J. F. Laniman (March): The Pacific red spider is becoming active in San Joaquin and Stanislaus Counties, and is leaving hibernating quarters beneath the bark of grapevines; it is feeding on weeds in the vineyards prior to development of buds on the vines.

PECAN

PECAN COSSID (Cossula magnifica Streck.)

Georgia

J. B. Gill (March 25): Damage by the hickory cossid borer is showing up in the pecan orchards at Albany and vicinity.

Mississippi

Wm. L. Gray (March 16): The pecan cossid is moderately abundant on pecan at Natchez, Adams County.

TWIG GIRDLER (Oncideres cingulatus Say)

Mississippi

M. L. Grimes (March 21): Pecan twig girdlers were found in several orchards in Neshoba, Kemper, Newton, Lauderdale, and Clarke Counties.

GIANT APHID (Longistigma caryae Harr.)

Georgia

J. B. Gill (March 25): These aphids are moderately abundant on pecan trees in Albany and southern Georgia.

Mississippi

N. L. Douglass and M. L. Grimes (March 18, 21): Large brown aphids are found on pecans in moderate abundance at Meridian.

OBSCURE SCALE (Chrysomphalus obscurus Comst.)

Georgia

J. B. Gill (March 25): The obscure scale is occasionally found on oak trees around Albany, but not in very injurious numbers. In all infestations observed, the beneficial fungi were present and appeared to be important factors in keeping the scale under natural control.

Mississippi

C. Lyle (March 21): C. obscurus was found on pecan from Cary, February 26.

Arkansas

P. D. Sanders (March 10): The pecan scale was doing considerable damage to three large pecan orchards I inspected in Pulaski County. I also noted 600 trees heavily encrusted on a farm in Holly Grove. I visited three pecan growers located 15 miles east of Little Rock where 1,000 trees were heavily infested; many branches are being killed at Alexander farms.

CITRUS

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Florida

J. R. Watson (March 21): The Florida red scale is more abundant than it has been for several years past, owing to the unusually warm weather for several winters.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Arizona

C. D. Lebert (March): The California red scale again made its appearance on a small lemon tree at Mesa, where a heavy infestation was treated last year. Just a few scales were found on the new wood. All other trees were apparently clean. A rather heavy infestation was found March 10 on a small mixed citrus planting at Yuma. The grove was cut back and treated March 15.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia

J. B. Gill (March 25): Many complaints of cottony-cushion scale infestations have been received from scattered localities in the southern part of the State, where the insect has been doing much damage to ornamental plants and Satsuma orange trees. We have been furnishing interested growers and parties with Vedalia beetles from our Albany, Georgia, station. In most cases very good control is being obtained through the colonization of the Vedalia on the infested properties.

CITRUS APHID (Aphis spiraeicola Patch)

Florida J. R. Watson (March 21): A. spiraeicola is reported scarce for March. It is decidedly more abundant on citrus than a month ago, but the infestation is still not severe as compared with other years.

COWPEA APHID (Aphis medicaginis Koch)

Arizona C. D. Lebert (March): A. medicaginis is moderately abundant in Phoenix. This insect, which attacks the tender new growth of citrus, is quite numerous at this time in the valley. However, a little hymenopterous parasite has been observed in most cases to be working on the aphid.

BLACK CITRUS APHID (Toxoptera aurantii Boyer)

Mississippi C. Lyle (March 21): Satsuma leaves infested with Hysteroneura aurantii (det. by A. L. Hamner) were received from Pascagoula on March 7. The aphids were heavily parasitized.

CITRUS WHITEFLY (Dialeurodes citri Riley & Howard)

Georgia J. B. Gill (March 25): The citrus whitefly is moderately abundant on ornamentals and citrus in Albany and in southern Georgia.

Florida J. R. Watson (March 21): The citrus whitefly is beginning to emerge. Its numbers are not so great as one would expect from a warm winter, owing undoubtedly to an unusual development of the entomogenous fungi during the winter.

Louisiana W. E. Hinds (March 24): The citrus whitefly is very abundant on all host plants in southern Louisiana.

A TORTRICID MOTH (Platynota sp.)

Arizona C. D. Lebert (March): Larvae of Platynota sp. were found in grapefruit and oranges near Phoenix. About 4 per cent of the fruit was found to contain larvae which were found below the rind in the white tissue. Entrance holes were numerous and a rot had followed the injury. This is the second time this insect has been found on citrus in this locality.

CITRUS THRIPS (Scirtothrips citri Moul.)

Arizona C. D. Lebert (March 21): Citrus thrips are out at Phoenix. Several immature individuals have been found on the tender new growth and only two or three winged specimens.

FIG.

THREE-LINED FIG TREE BORER (Ptychodes trilineatus L.)

Mississippi

J. P. Kislanko (March 19): The three-lined fig tree borer is very abundant in Hattiesburg and seriously injuring the fig trees.

GREEN SHIELD SCALE (Pulvinaria psidii Mask.)

Florida

E. W. Berger and G. B. Merrill (March 22): The green shield scale is very abundant on wild rubber, Ficus aurea, in southern Florida and the Okeechobee area.

GUAVA

CARDIN'S WHITEFLY (Aleurodicus cardini Back)

Florida

E. W. Berger and G. B. Merrill (March 22): Cardin's whitefly is moderately abundant on guava bushes in Fort Myacca, eastern shore of Lake Okeechobee.

ALMOND*

WESTERN TENT CATERPILLAR (Malacosoma pluvialis Dyar)

California

A. E. Michelbacher (March 18): The coast tent caterpillar is starting to defoliate almonds around Antioch. A year ago it did much damage in this area.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Georgia

M. M. High (February) The vegetable weevil was found in Early and Troup Counties this year. An ant (Solenopsis pergandei Forel) was observed injuring pupae and larvae in large numbers, and a disease has caused heavy mortality of larvae, pupae, and adults in Stone and a part of Harrison County.

M. R. Smith (March 17): H. T. Vanderford has found the vegetable weevil at Columbus, Muscogee Co. A specimen which he collected (exact date not specified, but between March 6 and 10) was sent here along with the ants which he submitted.

Florida

M. M. High (January-February): This insect has been found in Washington, Bay, Gulf, and Calhoun Counties.

Alabama

M. M. High (January-February): This insect was found in Houston, Dale, Pike, Barbour, Macon, Russell, Chambers, Montgomery, and Butler Counties.

Mississippi

C. Lyle and assistants (March): Complaints of heavy injury have been received during March from many points in the State, where they were damaging a wide variety of truck crop. (Abstract, J.A.H.)

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Florida

J. R. Watson (March 21): D. balteata was found near Gainesville.

Mississippi

K. L. Cockerhan (February 23): The banded cucumber beetle was observed feeding on volunteer sweetpotato plants in Bay St. Louis, Hancock County, on this date.

C. Lyle and assistants (March): This insect is still abundant and damaging peas and beans in the southern part of the State. (Abstract, J.A.H.)

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia

J. B. Gill (March 25): The spotted cucumber beetle is scarce in Albany. It has been found on the blossoms of peach and plum trees.

Alabama

J. M. Robinson (March 21): The spotted cucumber beetle is moderately abundant on winter legumes at Auburn.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror L.)

Oregon B. G. Thompson (March 25): This species has been out of winter quarters since March 1 and can be found generally in young clover fields, but appear to be not as numerous as last year. Eggs are now being found in the field.

FLEA BEETLES (Halticinae)

Tennessee C. Benton (February): Flea beetles were reported injuring patches of turnip greens at Fayetteville.

Alabama J. M. Robinson (March 21): Flea beetles were found on small sweetpotato plants at Bay Minette.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

North Carolina W. A. Thomas (March 15): During the early part of March adults were unusually abundant in the fields in Chadbourn. Larvae, pupae, and adults were also abundant under canvas on tobacco beds. There was apparently no injury to the tobacco seedlings. On both potatoes and sprouting corn in the fields considerable damage is being done at the present time.

South Carolina A. Lutken (March 26): The seed-corn maggot is very abundant.

Mississippi C. Lyle and assistants (March): Injury was reported from several points in the State; to onions at Sallis, bean seed at Meridian, and iris at Gulfport. (Abstract, J.A.H.)

Alabama J. M. Robinson (March 21): Seed-corn maggots are moderately abundant on seed potatoes at Auburn.

Texas F. L. Thomas (March 22): The seed corn maggot is moderately abundant on spinach in Crystal City.

CHANGA (Scapteriscus vicinus Scudd.)

North Carolina W. A. Thomas (March 1): The mole crickets are much more destructive to tobacco seed beds than usual in Chadbourn. On many of the beds the soil has been thoroughly pulverized and the young plants uprooted.

FALSE CHINCH BUG (Nysius ericae Schill.)

North Carolina W. A. Thomas (March 15): This insect has been unusually destructive to broccoli and mustard during the past month in Chadbourn. The infestation seemed to be much heavier on overwintering plants than on the young spring crop. Cabbage and rutabaga turnips seem to have almost entirely escaped injury by this insect.

South Carolina A. Lutken (March 26): The false chinch bug has been destructive in the lower part of the State.

Nebraska W. H. Svent (February 29): During the second week in November large swarms of the false chinch bug occurred on the crowns of alfalfa plants in fields in Dundy County.

BORDERED PLANT BUG (Euryorhthalmus convivus Stal)

California A. E. Michelbacher (March 19): Bordered plant bugs are leaving hibernation, as is evident by their mating.

BEAN THRIPS (Heliethrips fasciatus Perg.)

California E. O. Essig (March 7): First appearance of bean thrips on pepper grass and wild lettuce at Vernalis. Adults quite plentiful following a month of fair weather.

GREENHOUSE CENTIPEDE (Scutigera innaculata Newb.)

California A. E. Michelbacher (March 12): As early as February 12 many eggs of the garden centipede were observed. Since that time there has been a period of heavy egg laying. In places, at least, they appear to be very slow in hatching, as very few young centipedes have been observed. The centipedes have been active for a considerable period of time. In several places they have wiped out localized areas of sugar-beet plantings. They apparently attack the seed as soon as it has germinated. In places they seem to have killed the seedling beets after they have reached the surface. Garden centipede attack is also apparent on asparagus at the present time.

SOWBUGS (Oniscidae)

Alabama J. M. Robinson (March 21): Sowbugs are in gardens at Ft. Cliff and Birmingham.

Mississippi C. Lyle and assistants (March): Sowbugs have been attracting considerable attention in the extreme southern part of the State, principally by attacking strawberries, but they have also been reported as attacking violets and other soft annuals. (Abstract, J.A.H.)

SLUGS (Mollusca)

Mississippi C. Lyle and assistants (March): Slugs have been doing/very considerable damage to strawberries in the Gulf Coast Counties. (Abstract, J.A.H.)

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Florida J. R. Watson (March 21): The Colorado potato beetle is moderately abundant. It was quite common in Alachua County the first part of March. There was a scattered infestation in the Hastings potato belt.

Alabama K. L. Cockerham (February 26): Several Colorado potato beetles were observed on volunteer Irish potato plants in a field in Foley today. They were active and feeding.

Mississippi K. L. Cockerham (February 19): The first adult of this season was observed in Biloxi today crawling around on a sidewalk.

POTATO FLEA BEETLE (Eutrix cucumeris Harr.)

Mississippi C. Lyle and assistants (March): The first adult of the season was observed in Stone County, March 3. By the third week in the month as many as 6 beetles per sprout had been observed in some fields. (Abstract, J.A.H.)

POTATO TUBER WORM (Gnorimoschena operculella Zell.)

Florida C. T. Stahl (March 10): It appears that a shipment of potatoes had been received at Jacksonville from Raiford which was held for some time on account of low market. These potatoes were evidently infested when they were received and the infestation developed rapidly in storage. When Mr. Nooney discovered this infestation he had all of the potatoes removed and destroyed. These potatoes were packed in hampers. After this experience Mr. Nooney cleared out the warehouse and cleaned it up and had it thoroughly whitewashed. He does not think that he will have any further trouble because he does not expect to hold any potatoes over for any length of time.

EGGPLANT

CORN EAR WORM (Heliothis obsoleta Fab.)

Florida W. H. White (February 15): A specimen of the corn ear worm was taken from an eggplant purchased on the local market (Washington), and reported to have come from Florida. There were six or seven worms on the fruit and they had entered the stem end. (Determined by C. Heinrich.)

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

- Connecticut N. Turner (March 22): On warm days during December and January a few active adults were seen in pine plantations in the southern part of the State.
- West Virginia L. V. Pears (March 29): The Mexican bean beetle is moderately abundant at Morgantown. Caged beetles show good survival.

A LEATHOPPER (Empoasca filamenta DeL.)

- Utah G. F. Knowlton (March 25): The most abundant leathopper in northern Utah on potatoes and beans during 1931 was the species recently described by DeLong as E. filamenta.¹

PEAS

PEA APHID (Pisum nigrum Kalt.)

- Alabama J. M. Robinson (March 21): English peas are heavily infested with plant lice at Atmore, Tray, and Dathan; there is a heavy infestation on Austrian peas at Enterprise.
- Mississippi K. L. Cockerham (February 15 to 29): In the vicinity of Pascagoula, Jackson County, 175 acres of early peas were planted for early shipping. During the last half of February the pea aphid attacked this crop so severely that control measures were necessary.
- C. Lyle and assistants (March): This insect was very abundant on Austrian winter peas and garden peas. (Abstract, J.A.H.)
- Arizona C. D. Lobert (March): The pea aphid is becoming very numerous in the Salt River Valley. Late last fall peas were infested heavily and this year's planting is becoming infested rapidly. About 1,000 acres are known to be infested.

CABBAGE

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

- Georgia J. B. Gill (March 25): Some complaints of injury to cabbage plants have been received during the month from southern Georgia. Evidently this insect is more abundant than usual, especially for this early in the year.

CABBAGE LOOPER (Autographa brassicae Riley)

Mississippi H. Dietrich (March 21): Full-grown larvae were found sparingly on peas at Lucedale on February 27.

CABBAGE APHID (Brevicoryne brassicae L.)

South Carolina A. Lutken (March 26): Cabbage aphids are abundant over the State.

Georgia J. B. Gill (March 25): The cabbage aphid is becoming troublesome on cabbage plants in southern Georgia.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Maryland J. A. Hyslop (March 26): An active adult was found among dead iris leaves in Silver Spring.

Georgia J. B. Gill (March 25): The harlequin bug is moderately abundant on collard and cabbage plants in Albany and southern Georgia.

Texas R. R. Reppert (March 22): The harlequin bug is moderately abundant on turnip in Pearsall.

ASPARAGUS BEETLE (Crioceris asparagi L.)

South Carolina A. Lutken (March 26): Asparagus beetles were actively feeding and depositing eggs, March 4, in Aiken.

STRAWBERRY

STRAWBERRY PANERA (Orthaea vincta Say)

Florida J. R. Watson (March 21): The panera, reported on strawberries, is still giving much trouble, particularly in the northern strawberry belt, including the counties of Alachua, Bradford and Clay. Paronius longulus Dall. is also found associated with the above species.

GRAIN LEATHOPPER (Draeculacephala reticulata Sign.)

North Carolina Z. P. Metcalf (March 8): Very abundant on strawberry at Rocky Mount. Attacks the blossom stem, causing the blossoms to wither and die.

A MIRID (Lygus sp.)

Alabama J. M. Robinson (March 21): Lygus sp. is destroying the fruit of strawberries at Atmore.

A DARKLING BEETLE (Crypticus obsoletus Say)

Mississippi

M. M. High (February): A beetle unrecorded as a pest of strawberry was found injuring berries at Longbeach.

A ROOT WEEVIL (Dyslobus ursinus Horn)

Oregon

K. Gray (March): Adults were out and feeding March 17.

FIELD CRICKETS (Gryllus assimilis Fab.)

Mississippi

C. Lyle and assistants (March): Field crickets were quite generally reported over the southern third of the State as doing considerable damage to strawberries. (Abstract, J.A.H.)

GARDEN SLUG (Agriolimax agrestis L.)

Mississippi

M. M. High (February): A. agrestis has caused serious injury to strawberry about Landon, Harrison County. This slug appeared suddenly in large numbers and attacked the ripe fruit.

BEETS

SUGAR-BEET ROOT APHID (Pemphigus betae Doane)

California

A. E. Michelbacher (February 12): This insect has been found in great abundance on the roots of Polygonum spp. The organism has wintered over on this host.

TOBACCO

TOBACCO FLEA BEETLE (Epidrix parvula Fab.)

North Carolina

C. H. Brannon (March): Large numbers of flea beetles are appearing a month earlier than usual in tobacco plant beds due to heavy infestations in the fields last fall and the mild winter weather. This early infestation is apparent now over a wide area in eastern and central North Carolina.

Florida

F. S. Chamberlin (March 3): Flea beetles are rather abundant in tobacco seed beds in Gadsden County. Newly set tomato plants are being heavily attacked in some instances.

Mississippi

F. P. Ansler (March 16): Tobacco flea beetles are moderately abundant on strawberries at Gulfport.

FOREST AND SHADE-TREE INSECTS

A SAWFLY (Diprion polytomum Htg.)

Maine H. B. Peirson (March 25): A white spruce sawfly has been noted at Bar Harbor. This is the first reported occurrence in the United States of this serious European pest.

SPRING CANKER WORM (Paleacrita vernata Peck)

Iowa H. E. Jacques (March 28): Spring canker worms are now in flight.

Kansas H. R. Bryson (March 25): There have been reports that females taken from the crevices of the bark of an elm tree following the severe cold weather of March 5 to 15 were not killed by a temperature of -2°F .

Missouri L. Haseman (March 22): Male moths were on the wing the last days in February and the early part of March in east-central and southeastern Missouri.

A HORNET MOTH (Alcathoe aniformis Clerck)

New York G. P. Engelhardt (March 10): The species has become well established in Brooklyn and outlying districts on Long Island, in New York City, the Bronx, Westchester County, Staten Island, Hoboken, Jersey City, and the Hackensack meadows region. In Brooklyn and locally on Long Island the insect is assuming economic importance. Its attacks are limited to the base of trees and lateral surface roots. Carolina poplars are the chief sufferers, next silver poplar, and Populus balsamifera and willows the least. From one Carolina poplar at Baldwin, L. I., I extracted over fifty pupae. Yet the species is poorly represented in most general collections of Lepidoptera. It is my opinion that it as yet has not spread very far from its point of introduction at or near New York City; an area of 100 miles probably covers its present range. My dates of emergence range from May 16 to June 21.

BAGWORM (Thyridontoryx epheneraeformis Haw.)

Ohio J. S. Houser (March 11): Heavy damage caused last year in the Mt. Airy Forest of Cincinnati bids fair to be less pronounced in 1932 owing to the fact that parasites destroyed large numbers of the insects last fall. A heavy percentage of the bags are empty instead of containing eggs.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Vermont H. L. Bailey (March 22): Many young lecanium scale insects, apparently alive, have been found on branches of elm and ash in Montpelier where infestation was heavy last year.

OYSTER-SHELL SCALE (Lecidosaphes ulmi L.)

Michigan

R. H. Pettit (March 23): The oyster-shell scale is moderately abundant on lilac and nut trees.

Missouri

K. C. Sullivan (March 22): The oyster-shell scale is very abundant in general.

Colorado

G. W. List (March 23): The oyster-shell scale was very much reduced in numbers by low temperatures during the winter of 1929 and 1930. The population is gradually building up again and we are having a number of inquiries about it this winter.

BARNACLE SCALE (Ceroplastes cirripediformis Const.)

Georgia

J. B. Gill (March 25): The barnacle scale is very abundant on hackberry trees in the Albany section. This scale also is found commonly on many other plants.

ASH

BANDED ASH BORER (Neoclytus carrea Say)

Nebraska

M. H. Stenk (March 1 to 20): In Holt County correspondents reported ash trees heavily infested with borers during the first week in March. These seemed to be the common banded ash borer.

BIRCH

BIRCH CASE BEARER (Colopthora salmoni Heinr.)

Maine

E. P. Felt (March 22): The birch case bearer is reported as occurring in great numbers on birches in the Bar Harbor section, according to a report received from W. Kay Conard of Augusta, Me.

ELDER

AN APHID (Aphis sambucifoliae Fitch)

Mississippi

J. P. Kislanko (March 19): The elder aphid, A. sambucifoliae, is now very abundant on elder in Hattiesburg.

ELM

LEOPARD MOTH (Zeuzera pyrina L.)

Massachusetts E. P. Felt (March 22): The leopard moth is well established on Nantucket Island, some elms being badly infested, according to a report from Mr. W. G. Aborn of Providence.

ELM BORER (Saperda tridentata Oliv.)

Nebraska M. H. Srenk (October 1931 to February 29): During the winter evidences of injury on elm trees in Otoe County were observed and specimens submitted for identification.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Colorado G. M. List (March 23): The European elm scale is now quite general over the entire State and reports indicate that it is on the increase.

FIR

AN AFHID (Dreyfusia piccae Ratz.)

Maine H. B. Peirson (March 25): A very serious outbreak in which large numbers of trees are being killed was reported on March 9 from Bar Harbor. This insect promises to do considerable damage this year.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Vermont H. L. Bailey (March 22): Many cases containing apparently living larvae of the case bearer are to be found on larch trees generally in the State.

MAPLE

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Colorado G. M. List (March 23): The cottony maple scale was much reduced in numbers during the winter of 1929-30 but some inspection trips have indicated that the infestation is heavier this spring than a year ago.

OAK

OAK KNOT GALL (Andricus punctatus Bass.)

Mississippi C. Lyle (March 21): Infested oak twigs were received from Madden on March 17, with a report that the tree from which they were taken was very heavily infested with these galls.

AN OAK GALL (Kermes sp.)

Rhode Island E. P. Felt (March 22): An oak gall scale, Kermes sp., is abundant on black oak at Providence.

PINE

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Const.)

Massachusetts E. P. Felt (March 22): The Nantucket pine moth has been reported as being epidemic upon Nantucket Island. Up to about four years ago many of the scrub pines were doing very well, but since then this pest has been creating havoc. Acres of dead trees in several well separated sections of the Island appeared very much as though they had been killed by fire.

Nebraska M. H. Swenk (October, 1931, to February 29, 1932): An infestation of pine trees in Rock County with R. frustrana bushnelli Busck was reported in the middle of January.

A PINE SHOOT MOTH (Evetria rigidana Fern.)

Louisiana W. E. Hinds (March 24): Rhyacionia rigidana is the determination given by Mr. C. Heinrich to the species of pine tip moth attacking pine trees at Jeanerette. These moths have caused serious injury to young trees in that location.

A WEBWORM (Tetralopha melanogrammos Zell.)

Maine H. B. Peirson (March 1): A pine webworm. There have been reports of webs on pitch pine from several sections of the State; they are said to be quite numerous.

SOUTHERN PINE SAWYER (Monochamus titillator Fab.)

Mississippi H. Dietrich (March 21): The first adult was taken on long-leaf pine logs in George County on March 4.

PINE BARK APHID (Chermes pinicorticis Fitch)

New York E. P. Felt (March 22): The pine bark aphid is locally abundant in southwestern New England and in southeastern New York. A bad infestation was located at White Plains.

SCOTCH PINE LECANIUM (Toumeyella numismaticum P. & McD.)

Mississippi H. Dietrich (March 21): T. numismaticum were very abundant on young pines along Gaines Creek, Green County, March 3.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Mississippi H. Dietrich (March 21): Chionaspis pinifoliae heterophyllae Cooley (det. by A. L. McLanahan) were very abundant on young pines along Gaines Creek, Greene County, on March 3.

Utah G. F. Knowlton (January 7): This scale insect is attacking Colorado blue spruce southwest of Salt Lake City. The infestation is rather heavy. Det. H. Morrison.

WILLOW

BEEETLES (Coleoptera)

Mississippi H. Dietrich (March 21): Flea beetles (Disonycha alternata Ill. and Chalcoides helxines L.) and the weevil Dorytomus brevicollis Lec. are very abundant defoliating willows along Gaines Creek, in Green County, on March 4.

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

GREENHOUSE LEAF TIER (Phlyctaenia rubigalis Guen.)

Connecticut J. E. Britton (March 22): P. ferrugalis has been reported ^{attack} geranium in a greenhouse at Clintonville.

THRIPS (Thysanoptera)

Connecticut N. Turner (January and February): Thrips are either attracting more attention or are more abundant than usual. Severe injury to calla lilies was reported, the species being Heliothrips haemorrhoidalis Bouche and Frankliniella tritici Fitch. Injury was done to carnations by Thrips tabaci Lind. and severe damage to cucumbers by the same species. Numerous collections have been made from water hyacinth, begonia, palm, rubber plants, and corn.

Illinois C. C. Compton (January 7): H. femoralis Reut. was found to be severely damaging smilax and stevia in a greenhouse at Des Plaines.

PRAYING MANTIDS (Mantidae)

Maryland

E. N. Cory (February): One or two reports of egg masses of Tenodera sinensis Sauss. and an unusual abundance of egg masses of Stagmomantis carolina Johan. have been reported.

A CAMEL CRICKET (Ceuthophilus sp.)

Illinois

C. C. Compton (March 22): Camel crickets are becoming more generally distributed in Illinois greenhouses. Growers report them feeding on seedlings.

MEXICAN MEALYBUG (Phenacoccus gossypii Towns. & Oehl.)

Ohio

E. W. Mendenhall (March 14): The Mexican mealybug is very destructive to chrysanthemum and geranium plants in one of the greenhouses in Kenton. (March 23): A severe outbreak has been found in a greenhouse in central Ohio. This species has only recently been discovered in some of the northern greenhouses and is particularly destructive to chrysanthemum, geranium, coleus, fuchsia, pelargonium, lantana, heliotrope, impatiens, German ivy, salvia, vinca, ageratum, verbena, and Boston fern.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Nebraska

M. H. Swenk (March 1 to 20): Reports of infestations of house plants with the common mealybug were received from various counties during the period here covered.

CANNA

LESSER CANNA LEAFROLLER (Geshna cannalis Quaint.)

Mississippi

H. Dietrich (March 21): The lesser canna leaf roller larvae were found on cannas at Lucedale on February 27. Freezing has since killed the cannas back to the ground, no doubt affecting the leaf roller.

DRACAENAS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Illinois

C. C. Compton (March 22): The black vine weevil has seriously damaged Dracaenas in a greenhouse at Cicero. (February 5, 1932). The adults cut irregular notches in the leaf margins. The larvae feed on the roots.

FERN

FERN SCALE (Hemichionaspis aspidistrae Sign.)

North Dakota J. A. Munro (March 26): The fern scale was reported as causing serious injury to several varieties of ferns at Drake, McHenry County, during the early part of March.

GLADIOLI

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Pennsylvania T. L. Guyton (March 23): The gladiolus thrips has been reported in the State from the following localities: Pittsburgh, Wesleyville, Erie, Glenside, Jersey Shore, and Oakmont.

Florida J. R. Watson (March 21): The gladiolus thrips has been found at Winter Haven.

HOLLY

HOLLY LEAF MINER (Phytomyza ilicis Curt.)

Ohio J. S. Houser (March 11): This is the first time this insect has been observed by the writer and it had not been noticed before by the officials of the Cincinnati Park Department. The attack was severe inasmuch as every leaf of a dozen or more 10-foot trees bore one or more mines.

NARCISSUS

A BULB FLY (Eumerus narcissi Smith)

New York F. S. Blanton and L. J. Spruijt (March 4): Prior to this E. narcissi was reported only from California. During the year 1931 one male and one female were found in a greenhouse on Long Island where narcissus bulbs had been forced.

IVY SCALE (Aspidiotus hederæ Vallot)

Mississippi J. Milton (March 25): The oleander scale is present on many oleanders in Corinth. The damage is moderate.

ROSE

POTATO APHID. (Illinoia solanifolii Ashm.)

Maryland W. L. McBath (January 25): Aphids were collected on rose January 25 at Brookmont. There was quite a cluster on the tip. There was a frost the night before. Det. by P.W.Mason.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

CLOVER MITE (Bryobia praetiosa Koch)

Colorado

G. M. List (March 23): Several inquiries were received during some warm weather in February in regard to the clover mite in dwellings.

BOXELDER BUG (Leptocoris trivittatus Say)

North Dakota

J. A. Munro (March 26): Carl F. Albrecht, Smith-Hughes instructor at Velva (McHenry County), reports that boxelder bugs have been a household pest of late in his community.

Iowa

C. J. Drake (March): The boxelder bug is extremely abundant over almost the entire State. Many people are complaining about it in their homes.

Nebraska

M. H. Swent (March 1 to 20): Complaints of boxelder bugs bothering in houses continued to be received from housewives during the month of March. (October to February 29): During early November, and again during the last half of February, there were reports of boxelder bugs proving quite a nuisance in houses. These reports came from Boone and Platte Counties southeast to Otoe County.

Utah

G. F. Knowlton (March 24): Boxelder bugs are becoming more annoying in houses, at Logan and Hyrum.

California

A. B. Michelbacher (March 19): From time to time throughout the winter hibernating forms of the boxelder bug have been observed, but on March 19 several were found mating, showing definitely that they were leaving hibernation. The females had well developed abdomens.

CATTLE

STABLE FLY (Stomoxys calcitrans L.)

Kansas

H. R. Bryson (March 25): D. G. Kelly reports larvae of S. calcitrans out as early as February 28-29 in localities in southeastern Kansas. Adults and larvae of this species were taken at Chanute and other localities of southeastern Kansas.

SHORT-NOSED CATTLE LOUSE (Haematovinus curysternus Nitz.)

Nebraska

M. H. Svent (October to February 29): Two reports, one from Grant County and one from Webster County, of cattle feed yards badly infested with the short-nosed cattle louse were received during January.

HORSESBUFFALO GNATS (Simuliidae)

Mississippi

C. Lyle and assistants (March): These insects continued to be somewhat serious in parts of Grenada, Carroll, Tallahatchie, Yalobusha, Tunica, Leflore, Attala, and Holmes Counties. A few mules have been reported as killed in Tallahatchie and Tunica Counties. (Abstract, J.A.H.)

SHEEPSHEEP BOTFLY (Oestrus ovis L.)

North Dakota

J. A. Munro (March 26): Recently a larva of the sheep botfly taken from the head of an infested sheep, was brought to this office by Leo M. Henry, local veterinarian; Dr. Henry reports that according to his observations only a very small percentage of sheep received from Western areas of the State by a local packing plant were infested with the pest.

POULTRYSTICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Mississippi

C. Lyle and assistants (March 25): Complaints in regard to the sticktight flea have been received several times recently. Poultry growers state that in some cases this pest injured their flocks greatly. (Abstract, J.A.H.)

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

General

T. E. Snyder (February): During the month of February 87 cases of termites were reported to the Bureau of Entomology. The following list gives the number of cases reported from each section: New England, 2; Middle Atlantic, 27; South Atlantic, 26; East Central, 6; West Central, 3; Lower Mississippi, 14; Southwest, 1; Pacific Coast, 7.

Connecticut

M. P. Zappe (March 22): A library in Union County was attacked by R. flavipes Kollar. Considerable injury was done to ash vainscoting and to larger timbers in the building. A large dwelling in New Haven was attacked by termites in timbers under the sun porch. A business block in the city of New Haven was reported by an exterminating company as being attacked; the extent of injury is unknown as yet.

Ohio

T. H. Parks (March 24): Termites were reported coming out in several Columbus homes. One of the largest banks in the city of Columbus is undergoing reconstruction where studding and baseboards in the basement have been injured. Apparently the mild winter has aggravated the termite problem.

Kentucky

T. L. Price (March 24): Termites were reported from Lexington, Louisville, and Fort Thomas.

Mississippi

C. Lyle and assistants (March 25): Termites continue to damage buildings in Corinth and other towns in northeastern Mississippi. Many houses are infested with this pest. (Abstract, J.A.H.)

Nebraska

M. H. Swenr (March 1 to 20): Additional reports of damage in houses by termites (R. tibialis Fts.) were received from Douglas County during the period here covered.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Alabama

J. M. Robinson (March 21): There are heavy infestations of the Argentine ant at Monroeville and Auburn.

PEA WEEVIL (Bruchus pisorum L.)

North Dakota

J. A. Munro (March 26): A serious infestation of the pea weevil in stored seed peas was reported from Fargo under date of March 10. The weevils were in the adult stage and numerous in the sample examined.

A CURCULIONID (Cleonus frontalis Lec.)

North Dakota

J. A. Munro (March 10): A beetle caused damage to growing plants and to the stored seed. Last year when the beans were about 2 or 3 inches high some of them wilted and died. Upon examination a small white worm about one-half inch long was found to have worked up through the center of the stem. This winter I found a bug in the bean bin. I have not found a live one since about the first of the year.

INSECT CONDITIONS IN PORTO RICO DURING FEBRUARY, 1932.

G. N. Wolcott

Insular Experiment Station, Isabela, Porto Rico.

A few bean pod borers (Maruca testulalis Geyer) are beginning to appear again in lima beans. During January none of these insects were found in lima beans although some were seen in snap beans.

A leaf beetle, Cerotoma denticornis Fab., has been more abundant in the sprayed fields than in those where no attempt has been made at insect or fungus control.

I planted some Crotalaria incana beside my own lima beans here, and am just beginning to collect the seed now. Not a single pod is infested, and indeed I have no record of finding Etiella zinckenella caterpillars in lima beans, either my own or those on the Station grounds, since last December. I can not imagine what has happened to the insect, as our minimum temperatures are not nearly so low as in southern California, the means for December and January being 65° F.

A lace bug, Corvthucha gossypii Fab., has been present for several weeks in the more wind-swept corner of one lima bean field, but is just now becoming sufficiently numerous to cause appreciable damage.

The midges (Sciara sp.) appeared in small numbers at light on the night of February 24, but none had been noted before, and I saw none on the night of February 25.

COSTA RICA

C. H. Ballou

The coffee aphid (Toxoptera aurantiae Boyer) is abundant in the plantations now (February 9), but is doing relatively little damage because the season is not very dry, and the trees are holding the old leaves well.

THE INSECT PEST SURVEY
BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

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No. 3

THE MORE IMPORTANT RECORDS FOR APRIL, 1932

Climatic conditions during the month of April were favorable for grasshoppers over the greater part of the heavily infested territory. Reports of the activity of those unimportant species which overwinter as nymphs were quite generally received from the entire Mississippi Valley. Up to the last week in the month no hatching of *Melanoplus* or *Camnula* was reported.

Cutworms of several species were appearing in limited areas over practically the entire country. In the Everglades district of Florida 100 acres of sugarcane were stripped and tobacco was also being damaged in that State and in North Carolina. Alfalfa was being seriously damaged over a large area in East-Central Nebraska by *Euxoa messoria* Harr. Here the cutworm was assuming somewhat armyworm-like habits owing to its enormous numbers.

By the third week in April practically all Hessian flies in the East Central States had pupated; and during the latter half of the month there was some emergence in parts of this area. The extremely cold weather during the middle of March was evidently very disastrous to the pupae in the eastern part of this area, Ohio reporting that the insect was very difficult to find in most parts of the State visited. In Illinois, Missouri, and Nebraska, however, the insect was still present in threatening numbers. In Illinois approximately 90 per cent of the larvae and pupae have survived. Egg laying was well under way in that section throughout the month, young larvae having been observed in Missouri by the 15th.

Scattered and rather light flights of chinch bugs occurred during the first week of the month in Illinois; and present indications are that these insects will be troublesome in central Illinois and Missouri.

Pupation of the codling moth started in the Middle Atlantic, East Central, and West Central States during the third week of April, at which time pupation was about one-third completed in the Pacific Northwest.

During the third week of the month emergence began in Georgia and southern Missouri. In the Southwest emergence was observed during the first week in the month, and moths were abundant in bait pans in New Mexico by the 10th. In southern California eggs were observed during the third week in the month.

Fruit aphids were reported as generally scarce throughout the New England States. A moderate abundance of these insects was reported from the Middle Atlantic States, and but slight abundance in the South Atlantic States. In The East Central States these insects were moderately abundant, and appeared to be decreasing in Illinois and Missouri.

Eggs of the oriental fruit moth were observed in northeastern Georgia on April 18, by which time over 70 per cent of the overwintering larvae had pupated and about a third had emerged as adults. The first emergence in Virginia was observed on April 14 and the first eggs were found in that State on the 22d. By the third week in April pupation was practically completed in Delaware. No pupation had taken place by this time, however, in western New York.

The plum curculio was first collected in the field in Tennessee on April 4, in Georgia on April 5, in Virginia on April 6, and in Delaware on April 20. This is the latest appearance of adults in the past 12 years in Georgia.

The vegetable weevil is spreading gradually in the Gulf section. During late March and early April it was found in 2 counties in the southeastern corner of Arkansas, in 18 additional parishes in Louisiana, and in 1 additional county in Texas.

The Colorado potato beetle was reported in unprecedented numbers from the Gulf coast of Alabama and Mississippi.

Overwintering adults of the Mexican bean beetle seem to have passed the winter exceptionally well as far north as Connecticut, and adults were emerging from hibernation quarters during the third week in April in outdoor cages in Delaware.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Wisconsin C. L. Fluke (April 25): Eggs of Camnula nallucida Scudd., are very numerous.
- South Dakota H. C. Severin (April 20): Eggs are very abundant in general over South Dakota; not hatched as yet.
- Nebraska M. H. Swenk (March 20 to April 20): Additional reports of an abundance of grasshopper nymphs in the fields continued to come from northern Nebraska during late March and early April. The green-striped grasshopper (Chortophaga virdifasciata DeG.) continued to be the principal species involved. Melanoplus eggs gathered from the fields of Knox and Boyd Counties on April 7 and 8 and placed under constant warm temperatures started to hatch on April 18.
- Tennessee C. Benton (March): Grasshoppers, mostly nymphs in various instars, were observed daily in wheat fields near Fayetteville even during a cold spell. Adults of the bird grasshopper (Schistocerca americana Drury) were observed in considerable numbers in a wheat field near Howell, Lincoln County, on March 29.
- Missouri L. Haseman (April 25): Eggs of the differential grasshopper, M. differentialis Thos., two-striped grasshopper, M. bivittatus Say, and red-legged grasshopper, M. femur-rubrum DeG. wintered well in western Missouri, but not so well in the central part of the State. Adult of C. virdifasciata was taken on April 23 at Columbia. Adults of S. americana were very common at Columbia April 22, probably migrants.
- Alabama J. M. Robinson (April 20): Grasshoppers are very abundant at Brewton and Georgiana, they are eating seeds off strawberries and causing the berries to shrivel, causing \$300 damage per day.
- Mississippi C. Lyle and assistants (April): With the exception of some injury to strawberry plants by C. virdifasciata, grasshoppers have been attracting but little attention throughout the State during the month. (Abstract, J.A.H.)
- Texas R. R. Rennert (April 4): Conditions in parts of Texas have been favorable to successful overwinter^{ing} of grasshoppers. Damage may be expected, possibly somewhat heavier than last season. Observations by this institution and by E. V. Walter of the U. S. D. A. indicate that foci are in Presidio, El Paso, Pecos, Uvalde, Medina, Tarrant, and Kaufman Counties.

- Wyoming A. G. Stephens (April 18): Grasshoppers are moderately abundant over the northeastern section of the State.
- Colorado G. M. List (April 20): Grasshoppers are very abundant in parts of eastern Colorado.
- Utah G. F. Knowlton and M. J. Janes (April 19): Eggs have not commenced hatching in northern Utah. An examination of the egg-laying grounds in the foothills west of Trenton showed mortalities varying from 30 to 100 per cent, with a survival of 70 per cent in the most favorable area. Beetle larvae were feeding upon most of the egg masses that were in good condition.
- New Mexico J. R. Eyer (April 20): Nymphs and eggs of M. differentialis are very abundant.

MORMON CRICKET (Anabrus simplex Hald.)

- Montana J. H. Pepper (April 21): Eggs of the Mormon cricket are hatching in very large numbers at Big Horn.

CUTWORMS (Noctuidae)

- North Carolina Z. P. Metcalf (April 22): Cutworms are more abundant in tobacco in the eastern half of the State than they have been for several years.
- Georgia W. H. Clarke (April 20): Cutworms are moderately abundant in Thomaston.
- Florida J. R. Watson (April 23): According to Prof. R. N. Lobbell of the Everglades Experiment Station, cutworms entirely stripped 100 acres of sugarcane in the Everglades and did much damage to other fields.
- F. S. Chamberlin (April 12): Cutworms are quite abundant in newly set tobacco in Gadsden County.
- Arkansas D. Isely (April 23): Cutworms are scarce in Washington County; lowest injury for several years.
- South Dakota H. C. Severin (April 20): Little damage has been reported as yet, but cutworms are fairly abundant.
- Nebraska M. H. Swenk (March 20 to April 20): From April 9 to 20 many farmers in a large area in east-central Nebraska report that serious damage was being done to alfalfa by the dark-sided cutworm (Euxoa messoria Harr.) working on the crowns of the plants, cutting off the young green shoots as fast as they started. The older alfalfa fields were first affected the cutworms later moving into newer fields. Alfalfa was the chief crop attacked, but the cutworms were also working freely on sweet clover, and in Platte County were injuring whea

and rye, while in Hamilton County they moved into barley fields after stripping the alfalfa plants. Lettuce and other garden truck were also destroyed in some places. The area infested, as so far reported, extends across the State from Knox, Antelope, and Pierce Counties on the north to Webster and Thayer Counties in the South. Those cutworms that hatched last fall or very early this spring have already made considerable growth. The recently hatched ones are still very small. These cutworms are active in the day time in some localities where they are especially abundant, and have been reported repeatedly as migrating in large numbers from field to field, sometimes across roads, but not in the large solid masses of worms, as in the true armyworm. According to our previous notes on this species, these cutworms will not stop feeding and enter the soil for pupating until well into May, and it will probably be the end of June or in July before all have done this. This means a long period for the cutworms to work on the corn; and if parasites do not destroy this abundance of cutworms within the next few weeks, there will be considerable danger to the corn from this outbreak.

Missouri

L. Haseman (April 25): April 24 moths of greasy cutworms, Agrotis ypsilon Rott., on wing. Cutworms abundant at Columbia.

Kansas

H. R. Bryson (April 22): Cutworms are moderately abundant on alfalfa, garden crops, and strawberries. Reports of damage have been received from scattered localities in central Kansas.

Mississippi

C. Lyle and assistants (April): The usual reports of cutworm damage, particularly to garden truck, were received during the month. (Abstract, J.A.H.)

Oklahoma

C. F. Stiles (April 21): Cutworms are being reported in fairly large numbers from practically all parts of the State. Some alfalfa fields are infested with the variegated cutworm (Lycophotia margaritosa saucia Hbn.) and the pale western cutworm (Porosagrotis orthogonia Morr.) in Texas County.

Montana

J. H. Pepper (April 21): The army cutworm (Chorizagrotis auxiliaris Grote) has been recorded in outbreak numbers. The damage is not general, but has been recorded in scattered fields throughout Missoula, Fergus, Yellowstone, and Powder River Counties.

Utah

G. F. Knowlton (April 24): Cutworms are reported seriously retarding the growth of alfalfa in parts of Millard County.

Nevada

G. G. Schweis (April 20): Cutworms are very abundant and doing considerable damage to alfalfa at Fallon and Reno.

New Mexico

J. R. Eyer (April 20): L. margaritosa saucia is very abundant all over the State.

ARMYWORM (Cirphis unipuncta Haw.)

New Mexico

J. R. Eyer (April 20): This insect is very abundant all over the State.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury.)

Florida

J. R. Watson (April 22): This insect has been very abundant on a large variety of weeds; and F. W. Walker reports that it has destroyed, or badly damaged, a great many fields of watermelons and corn in northern Florida, all the way from Gainesville to Monticello and as far west as Crawfordville in Waukulla County. I never saw this pest so abundant before. It has undoubtedly done damage to the extent of many thousands of dollars.

WHITE GRUBS (Phyllophaga spp.)

Georgia

J. B. Gill (April 25): Reports of damage by May beetles to pecan buds and foliage are being received from scattered localities throughout the State.

Mississippi

C. Lyle and assistants (April): May beetles started to appear by the middle of the month and were reported from several sections damaging the foliage of pecans. (Abstract, J.A.H.)

Wisconsin

C. L. Fluke (April 25): Beetles of brood A of white grubs are moderately abundant in central and northern Wisconsin.

WIREWORMS (Elateridae)

Alabama

K. L. Cockerham (April 6): On April 5, adult click beetles (Heteroderes laurentii Guer.) were taken from field hibernating cages at Foley and it was found that about one-third have successfully passed the winter as adults. This is the highest percentage to come through the winter in hibernation cages that we have yet found during several years' investigation. A very interesting thing with this species was that on April 5 and 6, when larvae were removed from hibernating cages, 13 per cent were found to have already pupated. At the same time, diggings and soil siftings showed the presence of pupae in the fields. This is about three weeks to one month earlier than the first pupation of previous springs.

Mississippi

K. L. Cockerham (April 12): On April 12 the first newly emerged adult of H. laurentii was found in the field at Biloxi and on this date the first adult emerged in the laboratory. This emergence is three weeks to a month earlier than usual. On the same date larvae were found attacking young corn very freely.

Utah

G. F. Knowlton (April 18): Wireworms are reported in northern Utah.

California

F. H. Wymore (March 29): Wireworms are moderately abundant at Chico and are seriously damaging potatoes.

A. E. Michelbacher (April 19): Wireworms (Anchastus cinereipennis Esch.) are doing some damage near Rio Vista. In some sugar-beet fields they have reduced the crop about 5 per cent. The larvae are quite numerous, but are not doing so much damage this year as last. In a portion of one field 300 larvae were gathered in 57 minutes on the 25th of March. The larvae were easily spotted by examining the soil around the wilted young seedling beets.

RED SPIDER (Tetranychus telarius L.)

North Carolina

W. A. Thomas (April 11): Red spiders are doing considerable damage to strawberries in the Chadbourn area. They are causing some of the bearing plants to die and seriously weakening others.

Mississippi

C. Lyle and assistants (April): Rather heavy infestations of red spiders on evergreens and other ornamentals have been reported from a number of places in the State. These infestations seem to be associated with continued dry weather. (Abstract, J.A.H.)

Washington

E. J. Newcomer (March 30): Hibernating mites are numerous in orchards at Yakima that were badly infested last year. Of 1,140 mites found under bark just below the ground, 475, or 42 per cent, were dead. Only about 2 per cent of the mites hibernating in codling moth bands above the snow line survived.

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

HESSIAN FLY (Phytophaga destructor Say)

Ohio

T. H. Parks (April 27): An examination of puparia taken April 11 from an early-sown wheat field in Pickaway County showed heavy parasitism. A very few eggs were present then. An examination of wheat plants taken April 23 from the same field showed very few eggs present and no flaxseeds were located. An examination of a Franklin County field on April 25 showed no eggs present. This field was sown early last fall and 42 per cent of the plants were infested in November. Hessian fly is apparently not making any headway in central Ohio and eggs are difficult to find.

- Indiana C. M. Packard (March): Considerable pupation took place in early and late March at Lafayette. High mortality of the early March pupae occurred owing to cold weather March 7-24. No emergence of adults.
- Illinois J. H. Bigger (April): Examinations on April 19 indicated 9 per cent survival in west-central Illinois. Approximately 75-80 per cent pupation has occurred at this time. Some emergence has taken place. Eggs are moderately abundant.
- Tennessee C. Benton (March): Pupation increased gradually at Fayetteville until by March 26 about half the puparia contained pupae. There was slight emergence of adults and oviposition on March 1-5 and 24-30. First small larvae were found March 20. A few half-grown larvae were present March 25-30.
- Missouri L. Haseman (April 25): The Hessian fly situation is serious. Adults were observed ovipositing in Sedalia April 16. Some young larvae observed in leaf sheaths at Columbia. Practically all flaxseeds contained pupae April 1.
- Nebraska M. H. Swenk (March 20 to April 20): During the period here covered additional instances of heavy infestation of winter wheat fields came to our attention, all of them, however, within the area of infestation outlined in my report for the issue of the Insect Pest Survey Bulletin.

CHINCH BUG (Blissus leucopterus Say)

- Illinois W. P. Flint (April): There have been scattered and rather light flights of chinch bugs on several of the warm days this spring, although there are still many bugs in hibernation. A light flight occurred on April 2, which was probably the first one this year.
- J. H. Bigger (March 26): All central counties expect severe damage from chinch bugs in 1932. Some damage is likely to occur in all counties from a line extending from Rock Island to Kankakee on the north to Murphysboro and Carbondale on the south. (April): The chinch bug is very abundant. A flight occurred April 4.
- Missouri L. Haseman (April 25): The chinch bug situation is threatening in central Missouri. Bugs were leaving winter quarters April 15.
- Kansas H. R. Bryson (April 22): Chinch bugs are scarce at Manhattan.

A GRAIN MITE (Eriophyes tenuis Nal.)

South Dakota

H. C. Severin (March 14): This mite (E. tenuis) entirely destroyed some small grain in the agronomy greenhouse at Brookings. Grains were grown for crossing purposes. It is a common mite in Europe, where it works on grains.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

Florida

H. T. Fernald (April 5): Some cornfields in Brevard County have been almost ruined by boring of the corn ear worm in the stems from a foot to a foot and a half high. About 90 per cent of the corn was ruined in one field. Caterpillars are about full-grown now.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Utah

G. F. Knowlton (April 18): A few weevils are out in northern Utah.

Nevada

G. G. Schweis (April 20): Alfalfa weevils are moderately abundant at Reno. The number of eggs deposited is greater than last year.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Kansas

H. R. Bryson (April 22): The clover leaf weevil was reported injuring alfalfa at Iola March 26. Dr. E. G. Kelly reported larvae plentiful in alfalfa at Kingman March 31.

Iowa

H. E. Jaques (April 26): The clover leaf weevil is very abundant in Henry County.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. E. Hinds (April 27): The first generation was retarded in its development by the very unusual freezes of March 9-15. Hibernating stages of larvae and pupae were not killed; and emergence of moths and first generation reproduction was again well under way by the last of March. Eggs had been found more abundant at Baton Rouge by the middle of April than they were at the beginning of the second generation in 1931.

CHAFER BEETLES (Scarabaeidae)

Louisiana

W. E. Hinds (April 27): Euethoeola rugiceps Lec., Ligyrus gibbosus Deg., and Dyscinetus trachynotus Burn. are very abundant in many localities. Populations of from 2,000 to 5,000 adults were found during March and April in some fields; and injuries to stands of planted and stubble cane and to early-planted corn are serious. L. gibbosus began laying eggs about April 10 to 15.

FRUIT INSECTS

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- Delaware L. A. Stearns (April 21): The first pupation of overwintered larvae was on April 21.
- Georgia C. H. Alden (April 18): The codling moth was reported at Cornelia. 125 moths were caught in 15 bait traps on April 19. No egg deposition has been observed to date.
- Ohio T. H. Parks (April 27): Codling moth is moderately abundant in most orchards with a few orchards having very heavy infestations. Collections of overwintering larvae showed that less than 2 per cent of the worms had pupated April 15. Packing houses contain fewer larvae than last spring.
- Indiana J. J. Davis (April 26): The codling moth has wintered over in rather large numbers; and we can anticipate an abundance of apple worms this season. At Bedford 3 per cent had pupated April 23 while 9 per cent had pupated at Lafayette.
- Missouri L. Haseman (April 25): The first codling moths were seen in southeastern Missouri April 19. About 20 per cent of the larvae pupated at Columbia April 19; about 10 per cent pupated at Aurora in southwest Missouri April 20. The situation is threatening.
- Nebraska D. B. Whelan (March 20 to April 20): Overwintered larvae first pupated on April 18.
- Utah G. F. Knowlton (April 18): Codling moth survival is rather low in the Logan area, as indicated by counts made up to date. It is still in cocoons in northern Utah.
- New Mexico J. R. Eyer (April 20): Adults commenced emerging April 1 at State College. It was abundant at bait pans the week of April 10.
- Washington E. J. Newcomer (March 30): Examination of 5,692 larvae collected during March from burlap bands that were above the snow line during the winter showed only 39 dead, or 0.7 per cent. Minimum temperature during the winter was -30° F., and there were practically no large fluctuations in temperature. Pupation was just beginning March 25. Since infestation was greater last fall than it has ever been, there will be a big infestation this year unless unfavorable weather during May and June prevents normal oviposition. (April 22): Of 500 larvae examined, 23 per cent had pupated.

California

A. E. Michelbacher (April 19): While no codling moths have been observed, they have been emerging for some time in the area around Clarksburg.

R. Bogue (April 22): The eggs of the codling moth are being found in Orange and Los Angeles Counties and are very early this year, and considerably earlier than last year.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

New York

N. Y. State Coll. Agr., Weekly News Letter (April 25): Tent caterpillars began hatching on April 20 in Ulster County.

Pennsylvania

J. N. Knull (April 22): The first eggs hatched on April 22 in Horse Valley, Franklin County.

Delaware

L. A. Stearns (April 21): The first hatching at Newark was observed April 18.

Virginia

W. J. Schoene (April 23): Caterpillars were first observed hatching on April 4. This pest was very numerous in the central part of the State last year.

Georgia

W. F. Turner (April 9): Numerous tents were observed in Upson and Meriwether Counties on April 6. These were mostly in wild cherry and would average about 6 inches across.

Mississippi

C. Lyle (April 22): Colonies were observed in crabapple trees at Ellisville, Jones County, on April 4. These insects were reported as defoliating wild cherry trees near Leaf, Green County, a few days later.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New York

N. Y. State Coll. Agr., Weekly News Letter (April 25): Larvae were observed April 21 in Dutchess County, and April 22 in Ulster County.

A CASE BEARER (Coleophora sp.)

New York

N. Y. State Coll. Agr., Weekly News Letter (April 25): Case bearers began to be active April 21 in Ulster County.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Colorado

G. M. List (April 20): Fruit-tree leaf rollers are from scarce to moderately abundant in Delta and Montezuma Counties.

APHIDS (Aphidae)

Vermont

H. L. Bailey (April): Fruit aphids are scarce in Montpelier.

- Massachusetts A. I. Bourne (April 25): Apple plant lice were hatching on April 17 and out in numbers by the 20th. At that time most of the fruit buds were in the silver stage, only the most advanced showing any evidence of color.
- Connecticut M. P. Zappe (April 22): Aphis pomi DeG. has hatched but is very scarce and hard to find.
- New York C. R. Crosby (April 25): Fruit aphids are just beginning to hatch.
- N. Y. State Coll. Agr., Weekly News Letter (April): By the middle of the month apple aphids were becoming numerous in the eastern part of the State. Though less abundant than the apple grain aphid (Rhopalosiphum prunifoliae Fitch) the rosy apple aphid (Anuraphis roseus Baker) was being reported during the first half of the month in the eastern half of the State and was increasing rapidly by the middle of the month in both the eastern and western fruit areas. The apple grain aphid was observed in the lower Hudson River Valley during the first week in April. By the second week in the month hatching was quite general throughout the entire Hudson River Valley and by the third week in the month, it was being quite generally reported throughout the western part of the State. (Abstract, J.A.H.)
- Pennsylvania J. R. Stear (April 21): Apple aphids have been hatching since April 5. Many were killed by the cold weather during April.
- T. L. Guyton (April 21): The grain and the rosy aphids are moderately abundant.
- Delaware L. A. Stearns (April 21): Fruit aphids are moderately abundant throughout the State.
- Virginia W. J. Schoone (April 23): Rosy aphid eggs were observed hatching in Augusta County on April 4. They seem to be present in very small numbers. They were reported present in the northern part of the State around April 15, but are not sufficiently numerous to be injurious. The present indications are that no injury will result from apple aphids this season.
- Ohio T. H. Parks (April 27): The apple grain aphid, R. Prunifoliae, is moderately abundant.
- Indiana J. J. Davis (April 25): Apple aphids were very abundant when the trees were in the green bud stage but they have been gradually decreasing in numbers and at present are very scarce.
- Illinois W. P. Flint (April): Aphids were quite abundant on apple buds at the time of the tip-green stage. The species found were practically all grain aphids. The numbers of aphids have been decreasing steadily during the past few weeks.

- Michigan E. I. McDaniel (April 25): A. pomi is abundant on apple buds at Fennville.
- Wisconsin C. L. Fluke (April 25): Oat aphids are very abundant; hatched extremely numerous.
- Missouri L. Haseman (April 25): Various species, including the apple grain aphid and the woolly aphid (Eriosoma lanigerum Hausm.), have been attracting some attention but are not so abundant as usual. Thus far the rosy apple aphid has attracted no attention in Missouri.
- Nevada G. G. Schweis (April 20): Fruit aphids are moderately abundant at Reno. Damage to plum and peach.
- Utah G. F. Knowlton (April 18): Fruit aphids are hatching in northern Utah.
- California E. O. Essig (April 23): The apple grain aphid is very abundant on oats in the San Francisco Bay district.
- SAN JOSE SCALE (Aspidiotus perniciosus Comst.)
- Massachusetts A. I. Bourne (April 25): We have had some reports of the appearance of the San Jose scale in occasional orchards over the State. The scale has apparently built up gradually in those orchards which have been favored by freedom from European red mite infestation, and consequently the growers in those orchards neglected to make any dormant applications.
- New York N. Y. State Coll. of Agr., Weekly News Letter (April): The San Jose scale is so plentiful in Ulster County that most growers are applying special treatments for its control. It was also reported as very abundant in Orange, Erie, Ontario, and Yates Counties. (Abstract, J.A.H.)
- C. R. Crosby (April 25): The San Jose scale is much more abundant than in several years.
- P. J. Parrott (April): The San Jose scale is very abundant in western New York.
- Pennsylvania T. L. Guyton (April 21): The San Jose scale is very abundant. About 10 per cent living scale on trees in Franklin County in unsprayed orchards.
- J. R. Stear (April 21): The San Jose scale has had a heavy mortality in at least one apple orchard in Ligonier. Counts of 3,863 scales made February 11 showed 42 per cent dead. Of 531 scales examined April 8, 88 per cent were dead. This is probably due to sub-zero weather for a few days in March.

- Delaware L. A. Stearns (April 21): The San Jose Scale is more abundant than it has been for some years.
- Georgia O. I. Snapp (April 20): Infestation on peach trees at Fort Valley is heavier than it has been for many years.
- C. H. Alden (April 18): The San Jose scale is moderately abundant at Cornelia.
- Florida J. R. Watson (April 23): The San Jose scale is moderately abundant.
- Indiana J. J. Davis (April 26): San Jose scale wintered with little mortality. Very likely there will be a serious infestation in some orchards.
- Wisconsin E. L. Chambers (March 30): The San Jose scale is still restricted to a number of southern Wisconsin counties, and it has been discovered in two large villages near large nurseries and an active spray campaign is in progress at each of these places involving the spraying of all infested trees and shrubs on more than 600 properties under State supervision.
- Missouri L. Haseman (April 25): The situation is serious in the southern part of the State although dormant spray is generally being used this year. The scale is less serious in the ~~norther~~ part of the State. There was a 43 per cent winter mortality at Columbia.
- Alabama J. M. Robinson (April 20): The San Jose scale is moderately abundant at Auburn.
- Washington E. J. Newcomer (March 30): Examination of 2300 hibernating scales in March showed 615, or 26.8 per cent, dead.
- Idaho C. Wakeland (April 19): The San Jose scale is very abundant at Lewiston. Out of 10,000 scales examined 37 per cent are alive.

LEAFHOPPERS (Cicadellidae)

- Connecticut P. Gorman (April 22): Eggs of Typhlocyba pomaria McA. are abundant on twigs in many orchards in New Haven County.
- Pennsylvania S. W. Frost (April 25): Leafhoppers are especially abundant this spring in Adams County. The species that are most evident are Erythroneura obliqua Say, E. dorsalis Gill., and E. hartii Gill. The combined work of these three is causing a great deal of injury to apple foliage.

TARNISHED PLANT BUG (Lygus pratensis L.)

- New York N. Y. State Coll. Agr., Weekly News Letter (April 25):
Tarnished plant bugs observed April 18 in Dutchess County.
- Indiana J. J. Davis (April 26): Apple leafhoppers were abundant
early in April, but have not shown the increase anticipated.
- Illinois J. H. Bigger (April 8): The tarnished plant bug has been seen
feeding on apple buds in Pike County.
- Missouri L. Haseman (April 25): Overwintering adults of different
species were observed moving to apple foliage April 19.
- Utah G. F. Knowlton (March 25): Tarnished plant bugs are now
active on warm days. A number of adults have been taken
under the rough bark of apple trees, during examination of
overwintering codling moth larvae. (April 13): Adults are
abundant upon wheat at Collinston at the present time. No
nymphs have been observed up to this time.

- Washington E. J. Newcomer (March 30): Of 700 bugs hibernating under
leaves in an outdoor cage, only 26, or 3.7 per cent, survived.
These were covered with snow most of the winter and the tem-
perature under the snow did not get below 32° F. A year ago
the survival under similar conditions was 12.5 per cent. Bugs
have been plentiful in cover crops during March, but little
damage to fruit buds has occurred.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

- Mississippi J. Milton : (April 20): The shot-hole borer was found
to be infesting apple trees near Corinth in the early part of
April. These trees had been weakened by the presence of the
San Jose scale.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

- Ohio T. H. Parks (April 27): The apple flea weevil is very
abundant and doing serious injury in an orchard in Jackson
County. This county has not suffered from this insect in
previous years.

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

- Maine C. R. Phipps (April 25): European red mite eggs were re-
ported in abundance in certain Oxford County orchards.
- Massachusetts A. I. Bourne (April 25): From all appearances from orchards
over the State, the European red mite seems to be as abundant
as ever.
- Connecticut M. P. Zappe (April 22): Some orchards have as many as
usual, while in other orchards eggs are very scarce. The
general average is probably less than in other years.

PEACH

CLIMBING CUTWORM (Lampra barnesi Benjamin)

Washington D. J. Newcomer (April): The climbing cutworm was first noted climbing peach trees and injuring fruit buds on April 10 in Yakima. On April 22 many larvae are pupating.

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

Georgia O. I. Snapp (April 16): Eggs under field conditions are now hatching at Fort Valley. Some larvae in trees are now one week old. Infestation is heavy in old neglected peach orchards.

W. H. Clarke (April 4): Field collections at Thomaston showed a number of pupae March 29. An adult male emerged from field collections placed in the insectary April 4, the first adult to emerge in the insectary.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Delaware L. A. Stearns (April 21): Eighty per cent pupation of overwintering larvae by April 10. Ninety-one per cent pupation of overwintering larvae by April 21.

Virginia W. J. Schoene (April 23): Adults began emerging at Blacksburg on April 14, and the first eggs were obtained April 22. Moths were obtained in bait pails at Bonsack on April 14.

Georgia W. H. Clarke (April 18): The first eggs were laid in the insectary at Thomaston April 14. Over 70 per cent of the overwintering material had pupated through today April 18 and over 35 per cent of the overwintering material had emerged as adults through today. No eggs have been found in field observations.

C. H. Alden (April 18): A few moths are being caught in bait traps; no egg deposition.

O. I. Snapp (April 20): No first-generation larvae have been found in Fort Valley in the field to date.

Indiana J. J. Davis (April 26): The oriental fruit worm apparently hibernated with a very low mortality; and we may anticipate a noticeable increase this spring. However, the peach crop will be very light, but probably there will be enough fruit to carry over the insect in large numbers. No moths had emerged at Bedford by April 23.

Wisconsin C. L. Fluke (April 25): The oriental fruit moth is very abundant; more live worms overwintered than usual.

Tennessee

H. G. Butler (April 12): A single oriental fruit moth, the first, emerged from the insectary stock at Harriman today.

Bureau of Entomology News Letter, No. 214 (February): It was found that an average of 1 larva could be found on each peach mummy. This winter similar examinations have been made * * * and it has been found that larvae are practically absent from peach mummies. It is thought that possibly the long-continued warm weather last fall permitted the immature larvae to complete their feeding and move to better hibernation quarters.

PEACH TWIG BORER (Anarsia lineatella Zell.)

California

F. H. Wymore (March 29): The peach twig borer is beginning to feed on the new shoots of peach, almond, etc., in the Sacramento Valley.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Delaware

L. A. Stearns (April 21): The first curculio emerged from hibernation on April 20.

Virginia

W. J. Schoene (April 23): Two adults were taken on April 6 near Greenwood, but subsequent jarring in that section and in Augusta County failed to show the presence of the plum curculio during the next ten days. Adults were taken in the Roanoke district on April 21; and were found in Blacksburg on April 23.

Georgia

O. I. Snapp (April 5): The first adult of the season was captured today after jarring many peach trees adjoining woodlands at Fort Valley. Less than 5 per cent of the buds have opened on the first-blooming variety of peach. The other varieties are still dormant. The curculios begin to appear from hibernation when the first buds open. They are very late leaving hibernation this year. Likewise the peach trees are blooming much later than usual. This is the latest appearance of adults from hibernation in 12 years of records, and ordinarily we would predict only one generation; however, since the peach trees are correspondingly late blooming this year, we have no certain basis for a prediction as to the number of broods of larvae to expect. (April 7): Adults are beginning to leave hibernation in numbers. As many as 10 were captured from a single tree in the first row of a peach orchard adjoining woodland. They have not yet passed the second row of these orchards which are partly in bloom. Some orchards are still dormant and in these the adults have not yet appeared. (April 20): The appearance of adults from hibernation has been light to date, and indications point to a light source of infestation for the 1932 season. Although some varieties of peaches are in full bloom and the weather sufficiently warm to cause emergence from hibernation, very

few adults have been captured in most of the orchards. A light source of infestation has been anticipated on account of the light infestation in 1931 and the probability of mortality from weather conditions during the hibernation season. (April 25): A larva about three days old was found in a small green peach today. A number of eggs were also found in little peaches. Evidently some oviposition has taken place during the last 10 days or 2 weeks.

C. H. Alden (April 18): The plum curculio is scarce at Cornelia. First adults were caught on jarring frames April 9.

W. H. Clarke (April 18): The first curculios of the season were caught by jarring this morning April 4; two specimens were submitted by a Thomaston grower who estimated that 200 trees were jarred. Experimental jarring this morning, April 5 showed only 6 curculios caught in three hours of jarring. The first spring emergence of overwintering curculios is 19 days later than in 1930 and 11 days later than in 1931. Jarring records show a steady increase in numbers of beetles emerging. Feeding injury has been found in the orchards, but no eggs have been found. Mating has been observed in insectary cages every day since April 8.

Tennessee

H. G. Butler (April 4): The first plum curculios to emerge from hibernation at Harriman were taken today, April 4.

Missouri

L. Haseman (April 25): Adults of the plum curculio were taken on apple tree trunks April 23 at Columbia. Early plums are not yet in shuck-split stage, April 25.

PLUM CURCULIO (Conotrachelus anaglypticus Say)

Georgia

O. I. Snapp (April 25): The first adult of the season was taken from a peach tree today at Fort Valley. This species will breed in peach fruit.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Delaware

L. A. Stearns (April 21): Jarred from peach trees at Bridgeville and Camden April 19.

Georgia

W. H. Clarke (April 18): Large numbers have been caught in jarring peach trees for curculio at Thomaston. Feeding injury has been noticed on blossoms and leaves, and feeding has been observed. Varieties that did not have a full crop of peaches have suffered a decrease in fruits through injury done by this insect. (April 20): Hundreds of spotted cucumber beetle were caught in jarring peaches in middle Georgia.

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

Georgia

W. H. Clarke (April 18): The number of these beetles caught in jarring peach trees at Thoraston has rapidly decreased since the freezing weather of the middle of March. Only two were caught on the 16th.

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

Georgia

W. H. Clarke (April 18): Peach twigs collected from replants and 2-year-old trees on March 11 at Thoraston showed a few eggs imbedded in the pith.

BLACK PEACH APHID (Anuraphis persicae-niger Smith)

New Jersey

T. J. Headlee (April 4): The only striking thing has been the presence of the black peach aphid on peach trees throughout the latter part of winter.

THRIPS (Frankliniella spp.)

California

S. Lockwood (April 20): From examinations made and reports reaching this office, it would seem that Frankliniella spp. have been responsible for more than normal damage to peaches and nectarines in both the San Joaquin and Sacramento Valleys.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

Massachusetts

A. I. Bourne (April 25): We noted the first case of pear psylla in the college orchard here on April 20. The cold, windy weather was causing the adult psyllas to be very inactive on the trees.

New York

N. Y. State Coll. of Agr., Weekly News Letter (April): Psyllas were emerging in fair numbers on the first of the month in the extreme southern part of the State and egg laying was observed as early as April 2 in Dutchess County. Up to the third week in the month but little egg laying had taken place although adult flies were quite numerous at that time. (Abstract, J.A.H.)

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York N. Y. State Coll. of Agr., Weekly News Letter (April): During the third week in April pear thrips began to appear in the lower Hudson River Valley. No swarming, however, has been noted up to April 25. (Abstract, J.A.H.)

California S. Lockwood (April 20): The pear thrips has been decidedly more numerous this spring than last year in the Sacramento Delta and in the Napa Valley of Solano County.

CALIFORNIA PEAR SAWFLY (Diphadnus californicus Marlatt)

California F. H. Wymore (March 29): The California pear sawfly is rather abundant in several pear orchards in the vicinity of Vacaville and Davis.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York N. Y. State Coll. of Agr., Weekly News Letter (April): Black cherry aphids began hatching during the second week in April in the lower Hudson River Valley, and during the third week in central New York. This insect seems to be unusually abundant this year.

CHERRY FRUIT SAWFLY (Hoplocarma cookei Clarke)

California F. H. Wymore (March 29): The cherry fruit sawfly has done considerable damage to the very small "Beauty" plums in an orchard near Vacaville.

RASPBERRY

ROSE SCALE (Aulacaspis rosae Bouche)

Indiana J. J. Davis (April 26): The rose scale was reported as abundant on raspberry at Terre Haute in January. Also on rose at Lafayette.

Mississippi F. A. Smith (April 20): The rose scale has been reported on raspberries in Tate County.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York N. Y. State Coll. of Agr., Weekly News Letter (April 25): Grape leafhoppers are flying in Chautauqua County.

- Utah G. F. Knowlton (April 13): Grape leafhoppers are emerging from hibernation, and are already abundant around Virginia creeper vines in some parts of Logan.
- California S. Lockwood (April 20): In the sandier regions of the San-Joaquin Valley the grape leafhopper is at present as numerous as last year, though the area of extreme infestation may be somewhat smaller. The damage resulting from this insect may, however, be considerably less because of the growers knowing far better how to control this pest. The presence of Anagrus epos Girault, an egg parasite of the grape leafhopper, in great numbers last fall reduced the population considerably.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

- Georgia S. Marcovitch (March 28): Sent in from northern Georgia by H. L. Fackler with the remark that they were doing heavy damage to young transparent apple trees at Chatsworth by boring in just above the buds.
- Arkansas W. J. Baerg (April 11): A heavy infestation on grape over a small area at Fayetteville was observed on April 5.
- New Mexico J. R. Iyer (April 20): The apple twig borer is moderately abundant on grape, nectar, and cherry.

AN AMBROSIA BEETLE (Xyleborus germanus Blandf.)

- New York E. P. Felt (April 22): An ambrosia beetle, X. germanus, was found breeding abundantly in greenhouse grape stems at Westbury, L. I. The species is Far Eastern, having been recorded only from Japan, Korea, and Formosa, and previously known to attack Benzoin thunbergii, Carpinus laxiflora, and Styrax japonicum.

CURRENT

IMPORTED CURRENT WORM (Pteronus ribesii Scop.)

- Iowa H. E. Jaques (April 26): The imported current sawfly is very abundant in Henry County.
- Nebraska D. B. Whelan (March 20 to April 20): The first eggs were found on April 18, four days earlier than in 1931.

CURRENT APHID (Myzus ribis L.)

- New York N. Y. State Coll. of Agr., Weekly News Letter (April 25): Current aphids began hatching April 22.

ALMOND

WESTERN TENT CATERPILLAR (Malacosoma pluvialis Dyar)

California A. E. Michelbacher (April 19): Around Antioch the western tent caterpillar does not seem to be as destructive as it was a year ago. Some can be found throughout the area on almonds, but no excessive damage is being done.

CLOVER MITE (Bryobia praetiosa Koch)

California F. H. Wymore (April 11): The brown or almond mite has been reported as doing considerable feeding on ~~prunefoliage~~ about Winters and Davis. Many adults have been present in the orchards for the past two weeks while to date only about three-fourths of the overwintering eggs have hatched, thus indicating that many adult mites have emerged from hibernation.

PECAN

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Georgia J. B. Gill (April 25): From breeding cages on material collected in the winter and kept out of doors, adults of the pecan shuck worm have been emerging in numbers since the middle of April.

PECAN CIGAR CASE BEARER (Coleophora caryaeoliella Clem)

Georgia J. B. Gill (April 25): The overwintering larvae of the pecan cigar case bearer are now moving out on the expanding foliage of pecan trees. The infestation is quite light in the pecan orchards of southern Georgia.

PECAN LEAF CASE BEARER (Acrobasis palliolella Rag.)

Georgia J. B. Gill (April 25): With the bursting of buds on pecan trees, the larvae of the pecan leaf case-bearer have been leaving their hibernacula to gnaw into the buds and upon the expanding leaves.

PECAN BUDMOTH (Gretchena bolliana Sling.)

Georgia J. B. Gill (April 25): Occasional adults of the pecan bud-moth are encountered in the pecan orchards of southern Georgia.

CITRUS

GREEN CITRUS APHID (Aphis spiraecola Patch)

Florida

J. R. Watson (April 22): There is a very heavy infestation over most of the citrus belt at the present time, a month later than we ordinarily expect such an outbreak. This is undoubtedly the result of a delayed flush of growth and bloom on citrus. The first part of the winter was extremely dry and prevented the trees from blooming to any large extent or putting out much tender growth to serve as food. The drought was broken about the middle of March and the trees are now in full bloom and full of aphids.

ORANGE THRIPS (Scirtothrips citri Moul.)

Arizona

C. D. Lebert (April): Very numerous on the citrus in the Salt River and Yuma Valleys during April. The second and third applications of sulphur were being applied in many of the groves. The flower thrips, Frankliniella tritici Fitch, were more abundant in the bloom by far, although it was not uncommon to find an average of five citrus thrips per blossom in the older groves.

California

E. A. McGregor (April 19): Although the citrus thrips appeared March 6, this year, six days later than normal, it has developed very rapidly. It has suffered a minimum of mortality, and a high percentage of overwintering eggs hatched and developed to maturity. This led to a relatively great amount of injury to vernal foliage of citrus varieties. The outlook is for a year of severe damage to unprotected orchards.

CITRUS WHITEFLY (Dialeurodes citri Riley & How.)

Florida

J. R. Watson (April 23): The citrus whitefly is moderately abundant.

H. T. Fernald (April 20): Far less abundant on citrus trees at Orlando than last year at this time.

Mississippi

C. Lyle and assistants (April): The citrus whitefly is very abundant in many localities throughout the State, attacking citrus, cane, jasmine, and privet. (Abstract, J.A.H.)

California

Monthly News Letter, Los Angeles County Agricultural Commissioner (March 29): The first major step in securing the eradication of infestations of the citrus whitefly, found recently in Arcadia, has been taken. Considered a major pest of citrus, to which it causes damage similar to that of the black scale (Saissetia oleae Bern.) the citrus whitefly before being found at Arcadia was known to exist in California only in the vicinity of Sacramento, and since September, 1931, in Santa Ana, Orange County. At both of these places

intensive eradication measures are being carried on. The source of the newly found infestations at Arcadia has been placed as plants sold several years ago from a nursery in which infestation was found and eradicated in 1928.

A CITRUS RED SPIDER (Tetranychus, sn.)

California

Monthly News Letter, Los Angeles County Agricultural Commissioner (March 29): Despite unfavorable weather conditions during the winter for insect growth, citrus red spiders have come through in sufficient numbers to cause rather severe infestations in many groves in Los Angeles County much earlier in the season than normally.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Arizona

C. D. Lobert (April): The infestation of California red scale found in a small planting at Yuma in March, 1932, has been controlled. All citrus trees in the bloc were cut back, completely defoliated, brushed, and sprayed. At the present writing there is no known infestation existing within the State of Arizona.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

- Alabama J. M. Robinson (April 20): The vegetable weevils have been doing damage since middle of March at Auburn. Adults abundant but no larvae at this time.
- Mississippi C. Lyle and assistants (April): This insect continued to be troublesome throughout the month over the greater part of the State. (Abstract, J.A.H.)
- Arkansas M. M. High (April 6): During the past three weeks this weevil has been found in Ashely and Chicot Counties.
- Louisiana M. M. High (April 6): During the past three weeks this weevil has been found in 18 additional parishes in Louisiana as follows: Vernon, Sabine, Natchitoches, Grant, Winn, Caldwell, Ouachita, Moorehouse, Union, Lincoln, Jackson, Bienville, Claiborne, Webster, Bossier, De Soto, Red River, and Caddo. One wild host plant was taken in Louisiana during the last week of March. This leaves only 2 parishes in Louisiana unrecorded as infested, and I feel sure these have the weevil.
- Texas M. M. High (April 6): During the past three weeks this weevil has been found in Harrison County.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

- Alabama K. L. Cockerham (April 6): Found very numerous on young corn in one field near Foley. As many as two or three beetles to a stalk were found and the corn showed considerable evidence of their feeding. (April 11): Noted attacking turnips and Irish potatoes. They were particularly numerous on turnips.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- Alabama K. L. Cockerham (April 11): This insect was found attacking Irish potatoes and turnips at Foley, but it wasn't so abundant as D. balteata.
- J. M. Robinson (April 20): The spotted cucumber beetle is moderately abundant at Auburn.
- Mississippi C. Lyle and assistants (April): The spotted cucumber beetle is appearing in large numbers throughout practically all parts of the State, both adults and larvae doing considerable damage to gardens, particularly in the southern half of the State. (Abstract, J.A.H.)

Arkansas

D. Isely (April 23): The spotted cucumber beetle is moderately abundant in Washington County; very abundant in comparison with last year.

IMBRICATED SNOOT BEETLE (Epicaerus imbricatus Say)

Mississippi

H. Dietrich (April): The imbricated snout beetle has been found abundant on wax beans in several parts of George County during the month.

ASPARAGUS BEETLE (Crioceris asparagi L.)

California

A. E. Michelbacher (April 19): On the 24th of March the first asparagus beetles were observed near Rio Vista. They were fairly numerous and will probably do considerable damage to young asparagus allowed to go to fern if no attempts are made to control them with sprays. At the present time a few of the beetles can be found here and there throughout the Sacramento River delta. On good authority I am informed that the beetle was found as early as the 4th of March.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

North Carolina

W. A. Thomas (April 4): A light infestation on snap beans has occurred in the Chadbourn area within the past week. The attack seems to be confined almost entirely to plants just emerging from the soil.

BEEF WEBWORM (Loxostege sticticalis L.)

North Dakota

J. A. Munro (April 22): Several reports have been received recently from McKenzie and Williams Counties that larvae and pupae are being observed in great abundance in fields being plowed at this time.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Florida

J. R. Watson (April 22): The bean leaf hopper, E. fabae, was extremely abundant in the Everglades section.

THREE-CORNERED ALFALFA HOPPER (Stictocephala festina Say)

Mississippi

H. Dietrich (April 21): The three-cornered alfalfa hopper was extremely abundant on wax beans in George County on April 4, but is now rare.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

Mississippi

H. Gladney (April 18): Leaf-footed bugs are moderately abundant at Ocean Springs, Jackson County.

FALSE CHINCH BUG (Nysius ericae Schill.)

Utah

J. F. Knowlton (April 4): The false chinch bug is active in northern Utah at the present time.

GREEN PEACH APHID (Myzus persicae Sulz.)

Mississippi

J. P. Kislanko (April 20): Turnips and potatoes in Stone County are moderately infested.

New Mexico

J. R. Eyer (April 20): Spinach aphids are appearing on potatoes, lettuce, and other garden vegetables.

FIELD CRICKET (Gryllus assimilis Fab.)

Mississippi

C. Lyle and assistants (April): These insects were reported from Pearl River, Pike, and Lincoln Counties, where they were doing considerable damage to strawberries. (Abstract, J.A.H.)

THRIPS (Thysanoptera)

Oklahoma

P. D. Sanders (April 22): Three acres of cucumbers growing under glass in Oklahoma City were being severely damaged by thrips. Reported to me by E. F. Burk.

MILLIPEDES (Myriapoda)

Mississippi

C. Lyle (April 22): Severe injury to both green and ripe strawberries by millipedes (tentatively identified by E. W. Stafford as Julus sp. or Parajulus sp.) was reported from Durant, Holmes County, on April 10. Injury to lima bean seed was reported from Durant on the same date, and from Charleston, Tallahatchie County, on April 12.

California

A. E. Michelbacher (April 19): The garden centipede (Scutigerebella immaculata Newp.) damage at Clarksburg appears to be somewhat less this year than last. However, in the delta region there are areas where it is doing a considerable amount of damage to asparagus, onions, and sugar beets.

SOWBUGS (Oniscidae)

Kansas

H. R. Bryson (April 22): Two reports from Wichita, April 11, state that sowbugs were causing damage in that vicinity. One instance reports this pest injuring strawberry plants.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

North Carolina

W. A. Thomas (April 8): Adults seem to be unusually abundant on young potatoes. To date no oviposition has been observed.

- Florida J. R. Watson (April 23): The Colorado potato beetle is moderately abundant in the potato area about Hastings.
- Missouri L. Haseman (April 25): Beetles were observed on potatoes on April 22.
- Alabama and Mississippi E. L. Cockerham (April 13, 14): On April 13 an unusual number of egg clusters and newly hatched larvae were observed on Irish potatoes at Foley, Ala. On April 14 damage was noted in Biloxi, Miss. Some plants already have most of their leaves destroyed. I have not seen eggs and larvae so numerous for several years.
- Mississippi C. Lyle and assistants (April): Although this insect was reported from practically all parts of the State it was observed to be causing appreciable damage in only the south-eastern section. (Abstract, J.A.E.)

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

- Connecticut N. Turner (April 22): The Mexican bean beetle shows very low winter mortality in hibernation cages.
- Delaware L. A. Stearns (April 21): Overwintered adults first appeared in cages April 19.
- New York N. Y. State Coll. Agr., Weekly News Letter (April 18): Adults were noticed on some beans in Erie County the early part of the week before the storm.
- Alabama J. M. Robinson (April 20): The Mexican bean beetle is moderately abundant at Morris.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

- Mississippi C. Lyle and assistants (April): The bean leaf beetle put in its appearance during the third week in the month and by the end of the month was doing considerable damage to young beans. (Abstract, J.A.E.)

PEAS

PEA APHID (Illinoia pisi Zalt.)

- Kansas E. G. Kelly (April 22): Pea aphids observed on alfalfa at Kingman March 31, and in Barton and Stafford Counties April 2.

Mississippi C. Lyle and assistants (April): This insect, which was temporarily retarded by the freezing weather during the first week in March, has since built up to destructive populations, particularly on English and Austrian peas. (Abstract, J.A.H.)

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Florida H. T. Fernald (April 21): Adults are extremely abundant near and in cabbage fields and depositing eggs on the cabbages, at Winter Gardens. I think I never saw so many at one time.

Missouri L. Haseman (April 25): Butterflies on wing have been seen in central Missouri in considerable numbers since April 1.

SOUTHERN CABBAGE WORM (Ascia protodice B. & L.)

Mississippi H. Gladney (April 18): The southern cabbage worm is moderately abundant on cabbage at Ocean Springs, Jackson County.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

South Carolina W. J. Reid, jr. (April 25): The diamond-back moth has continued to be a very serious pest of cabbage in the Charleston area. Breeding of the insect continued unchecked during the entire winter. The pest attacked the spring cabbage crop as soon as it was set in the field. At first the infestations of the spring crop were located near winter cruciferous plantings. At the present, approximately one-half of the spring cabbage crop has been harvested. The worms are now present in enormous numbers on the cabbage; all stages of the insect are present in the field. The worms have tunneled through as many as six leaves of the cabbage heads; 90 per cent of the cabbage plantings visited by the writer show an infestation. The damage is severe in 75 per cent of the plantings.

Utah G. F. Knowlton (April 12): Unusually abundant on wild mustard plants in several parts of Tooele and Box Elder Counties.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Mississippi C. Lyle and assistants (April): This insect was doing considerable damage to crucifers in several parts of the State during the latter half of the month. (Abstract, J.A.H.)

Alabama J. M. Robinson (April 20): The harlequin bug is moderately abundant at Auburn.

North Carolina W. A. Thomas (April 5): This insect is present in large numbers on seeding collards where serious injury is being done to the developing seed pods near Chadbourn.

Oklahoma C. F. Stiles (April 21): The harlequin bug is present in larger numbers than usual and is distributed fairly well over the eastern half of the State. Some of the truck growers are hand-picking the bugs.

Florida J. R. Watson (April 23): The harlequin bug is moderately abundant.

Kansas H. R. Bryson (April 12): Reports from Cherryvale indicate that the harlequin bug is abundant in that vicinity; reported laying eggs.

A WEEVIL (Tanymecus laceana Hbst.)

Oklahoma C. F. Stiles (April 21): A weevil (Tanymecus laceana) has been found feeding on cabbage in Wagoner County and there are as many as 50 on some of the plants, but I doubt if the damage will be very serious.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

New York N. Y. State Coll. Agr., Weekly News Letter (April 25): A few striped cucumber beetles were found in Erie County.

North Carolina W. A. Thomas (March 21): This insect was observed at Chadbourn in large numbers feeding on the open blooms of the chokeberry. At this time no cucurbits had been planted. This early appearance of the striped cucumber beetle in such large numbers would seem to indicate that the winter mortality has been much below the normal for this section.

Pennsylvania J. N. Knull (April 25): Adults plentiful on the flowers of Amelanchier canadensis at Mont Alto.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Indiana J. J. Davis (April 4): We have had reports of abundance of squash bugs in hibernating quarters at Lafayette.

Utah G. F. Knowlton (April 15): Many inquiries have been received about the squash bug. This destructive species is becoming more widely distributed each year, and severe losses result.

ONION

BLACK ONION FLY (Tritoxa flexa Wied.)

California E. O. Essig (April): Larvae found February 4; adults reared in March and April. Larvae attacking chives in Santa Barbara County. Exact locality will be furnished later. First record of this insect in California. Adults reared by E. O. Essig and determined by F. R. Cole.

STRAWBERRY

STRAWBERRY WEEVIL (Anthonomus signatus Say)

Mississippi J. P. Kislanko (April 20): The strawberry weevil is doing some damage to the young berries, but more so to the native blackberries. They were first observed on March 28.

North Carolina W. A. Thomas (April 13): The strawberry weevil began emerging from hibernation the latter part of the third week of March. They were first observed working in strawberry fields on March 28. By April 10 the infestation had become general over the Chadbourn area and the injury had become more widespread than usual.

A STRAWBERRY ROOT WEEVIL (Dyslobus decoratus Lec.)

Washington M. J. Forsell and M. H. Hatch (April 18): Adults of this species were abundant (3 or 4 to a plant) on yearling strawberry plants, the leaves showing signs of extensive feeding on April 16, at Bainbridge Island. The field had a southern exposure, and the beetles were most abundant along the margin of the field nearest the second-growth timber. No larvae were found at the roots, though lots of grubs could be found in fields harboring Brachyrhinus ovatus L.

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

Arkansas W. J. Baerg (March 30): The young lice have appeared in the crowns of strawberries at Fayetteville. Late last fall they were very numerous on strawberry plants.

SWEETPOTATO

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis Crotch)

Alabama K. L. Cockerham (April 13): The sweetpotato flea beetle was found quite generally distributed over a sweetpotato field at Foley, on April 13, but at that time very little feeding was noticeable.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

- Idaho C. Wakeland (April 19): Beet leafhoppers are very scarce in breeding areas.
- Utah G. F. Knowlton (April 1): Dark overwintered females were found to be moderately abundant on young Cheirinia reparda in places in the Flux, Grantsville, and upper Skull Valley areas of Tooele County. (April 18): Beet leafhoppers are moderately abundant in some Tooele and Box Elder County breeding grounds.
- New Mexico J. R. Eyer (April 20): Beet leafhoppers are moderately abundant. First-generation nymphs appeared early in March. Adults are abundant on Lepidium alyssoides and full plantings of beets.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

- Florida F. S. Chamberlin (April 8): Tobacco flea beetles are becoming unusually abundant on newly set tobacco in Gadsden County.
- North Carolina Z. P. Metcalf (April): Has very seriously damaged old tobacco beds in all parts of the State.
- Tennessee S. Marcovitch (April 25): Reports indicate that flea beetles are doing considerable damage to tobacco beds this spring.

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

GYPSY MOTH (Porthetria dispar L.)

- Vermont H. L. Bailey (April): Infestations occur in the towns along the Connecticut River from Springfield southward. Scouts of the Vermont Department of Agriculture found a decrease in number of egg masses about colonies which were scouted last year, but more general infestations than previously in woodlands. A few egg masses have been found in Newbury and Fairlee where small colonies have persisted several years.
- Rhode Island A. E. Stone (April 22): Egg clusters are more abundant than they have been for several seasons and specimen clusters

brought into the office from different places in northern sections of Rhode Island are hatching well - not less than 60 or 70 per cent. If conditions are favorable for young caterpillars we are likely to have heavy infestations in a few places.

New York and New Jersey News Letter, Plant Quarantine and Control Administration No. 16 (April 1): The largest infestation of the gypsy moth found on Long Island, N. Y. this fiscal year is situated near Glen Cove and consists of 307 new egg clusters. The next largest colony in size is one of 141 new egg clusters located near Roslyn, N.Y. The last-known infestation in New Jersey was found and eradicated in a small area in Piscataway Township which borders partly on the eastern limits of Bridgewater Township. There has not been any scouting work in that section of Bridgewater Township, which is now being examined, since the fiscal year 1930.

FALL CANKER WORM (Alsophila pometaria Harr.)

New York E. P. Felt (April 22): The fall canker worm is locally abundant in various Long Island localities.

California F. H. Wymore (March 29): The fall canker worm is moderately abundant in many prune orchards in Napa, Solano, Sonoma, and Yolo Counties.

SPRING CANKER WORM (Paleacrita vernata Peck)

North Dakota J. A. Munro (April 22): Adults of the spring cankerworm were first observed this season on April 14. They did not appear so abundant as was the case last year.

RESPLENDENT SHIELD BEARER (Coptodisca splendoriferella Clem.)

New York E. P. Felt (April 22): The resplendent shield bearer cocoons are numerous in woodland areas bordering New York City.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Vermont H. L. Bailey (April): Some activity among the great numbers of the crawlers on the bark of elm and ash trees was noted at Montpelier on a very warm day in early April. Most of them were still inactive April 25. Heavy infestations have been reported at St. Johnsbury and Lyndonville also.

ASH

CARPENTER WORM (Prionoxystus robiniae Peck)

Nebraska M. H. Swenk (March 20 to April 20): During April reports of activity of the carpenter worm on ash trees were received from northeastern Nebraska.

BANDED ASH BORER (Neoclytus caprea Say)

Nebraska

M. H. Swenk (March 20 to April 20): During April reports of activity of the banded ash borer on ash trees were received from northeastern Nebraska.

ASH LEAF BUG (Neoborus illitus VanD.)

California

E. O. Essig (April 23): Ash bug was very abundant on Oregon ash at Walnut Creek on April 10, defoliating a few trees.

BEECH

A SCALE INSECT (Phenacoccus serratus Ferris)

Connecticut

R. B. Friend (April 22): Ovisacs quite common on the lower part of the trunks and under side of lower branches of beech trees in Edgewood Park. Not sufficiently abundant to injure the host.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Wyoming

A. G. Stephens (April 18): The European elm scale is found in the central part of the State, mostly on shade trees and ornamentals.

Colorado

G. M. List (April 20): A new low temperature for March occurred early in the month, following several warm days the latter part of February, that resulted in probably 95 to 98 per cent mortality of the European elm scale in northern Colorado.

ELM SCURFY SCALE (Chionaspis americana Johns.)

Missouri

L. Haseman (April 25): Elm scurfy scale was found actually killing large maple trees in the village of Salisbury. For the past three years this scale has been killing elm trees in this village.

JUNIPER

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Connecticut

M. P. Zappe (April 25): Larvae are very abundant this year and causing much injury at New Haven, Hamden, and New London. They usually are not very abundant. Several Juniperus hibernica and J. meyeri are badly webbed and partially defoliated. A large block of J. meyeri in New London is heavily infested now. The same block showed no injury in July, 1931.

OAK

OAK GALL INSECTS (Andricus spp.)

Mississippi

D. W. Grimes (April 20): A. punctatus Bass. was abundant on oak, March 17, at Madden.

Alabama

J. M. Robinson (April 20): An oak gall insect was reported on water oak leaves at Montgomery. A. coronus Beut. is very abundant at Anniston.

AN OAK KERMES (Kermes pubescens Bogue)

New York

E. P. Felt (April 22): This oak gall scale insect is abundant on oak in the vicinity of New York City.

GOLDEN OAK SCALE (Asterolecanium variolosum Ratz.)

Pennsylvania

J. N. Knull (April 11): Six chestnut oak trees, from 4 to 8 feet tall, are infested with the golden oak scale. Infestation is very heavy and many small branchlets have been killed.

PINE

A PINE SHOOT MOTH (Rhyacionia rigidana Fern.)

Connecticut

R. B. Friend (April 22): Pupae were frequently found in the dead buds of red pine during the winter, but the insect has not been found sufficiently abundant to cause serious injury.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Vermont

H. L. Bailey (April): Inspections made by the Vermont Department of Agriculture in many plantations of red and Scotch pine failed to reveal any evidence of the presence of the insect.

A PINE WEEVIL (Pissodes approximatus Hopk.)

Pennsylvania

J. N. Knull (April 21): The first adults were observed on white pine lumber on April 21 at Mont Alto.

INTRODUCED PINE SAWFLY (Diprion simile Htg.)

Pennsylvania

E. P. Felt (April 22): The imported pine sawfly was found by Mr. Ernest Robertson occurring abundantly on white pine in the Philadelphia area.

BARK BEETLES (Scolytidae)

Pennsylvania J. N. Knull (April 21): The first adults of the following bark beetles were observed at Mont Alto on April 21: Hylastes porculus Er., Hylurgops pinifex Fitch, Dendroctonus valens Lec, Pityogenes hopkinsi Sw., Ips pini Say, and I. grandicollis Fitch.

Florida E. W. Berger and G. B. Merrill (April 24): The engraver beetle (I. calligraphus Germ.) probably occurs generally over all parts of the State wherever pine trees have been weakened by drought. Many pine trees are being killed.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Vermont H. L. Bailey (April): The pine leaf scale is very abundant on ornamental pines at Charlotte.

Wisconsin E. L. Chambers (March 28): The pine leaf scale, favored by long season, mild winter, and apparent scarcity of natural parasites, is becoming established in various sections of the state heretofore free from it. Many ornamental plantings are being attacked by it in several localities in southern Wisconsin.

PINE BARK APHID (Chermes pinicorticis Fitch)

New England and New York E. P. Felt (April 22): The woolly pine aphid is somewhat abundant in the environs of New York City and also in southwestern New England.

Michigan E. I. McDaniel (April 28): This insect is very abundant on pine at Wakefield.

SPRUCE

SPRUCE GALL APHID (Chermes abietis L.).

Connecticut E. P. Felt (April 22): The spruce bud gall is locally abundant in the Stamford area, the young being numerous upon trees showing many old galls.

SYCAMORE

SYCAMORE LACEBUG (Corythucha ciliata Say)

Connecticut W. E. Britton (April 22): Present by the thousands hibernated under loose bark of a large sycamore tree at Old Lyme. This insect was very common generally last year.

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia and Florida J. B. Gill (April 25): Complaints on account of infestation of shrubbery continue to come in from various localities. Within the past month we have supplied Vedalia adults, pupae, and larvae for infestations at Albany, Hawkinsville, Vienna, Leesburg, Claxton, Waycross, Valdosta, Hahira, and Adel, all in Georgia, and at Jacksonville, Florida.

Alabama J. M. Robinson (April 20): The cottony-cushion scale is reported on roses, boxwood, and other shrubs at Dothan.

THRIPS (Heliothrips haemorrhoidalis Bouche)

Utah G. F. Knowlton (April 5): Thrips are damaging poorly cared for greenhouses in several places.

BULB MITE (Rhizoglyphus hyacinthi Bdv.)

Michigan E. I. McDaniel (April 28): Severe losses to Easter lilies in greenhouses have been reported from Detroit.

SOWBUGS (Oniscidae)

Indiana J. J. Davis (April 26): Sowbugs were reported very abundant in greenhouses at Brazil and New Albany in February. At the latter place they were attacking petunias as they sprouted and other potted plants.

ALDER

A LEAF BEETLE (Lina interrupta Fab.)

Mississippi H. Dietrich (April 21): This beetle had again defoliated the alders along White's Creek, George County, by the first of the month.

ARBORVITAE

ARBORVITAE APHID (Dilachnus thujaefolius Del G.)

Mississippi G. I. Worthington (April 20): Arborvitae aphids are general on arborvitae. The aphids are being attended by flies and wasps.

Texas

O. G. Babcock (March 1 to 16): The several species of arborvitae are found to be quite severely infested with this plant louse. The lice are to be found mainly on the small branches enclosed by the foliage and also out near the tips or smaller branches about the many apexes of the tree. Large and small trees are affected alike. *Scyrphus* flies and lady beetles were observed to be feeding upon these lice.

EUONYMUS

EUONYMUS SCALE (*Chionaspis euonymi* Comst.)

New England
and
New York

E. P. Felt (April 22): The euonymus scale is breeding abundantly on individual plants or groups of plants in the Boston, Mass., area, in southwestern New England, and in southeastern New York.

GLADIOLI

GLADIOLUS THRIPS (*Taeniothrips gladioli* Moulton)*

Florida

J. R. Watson (April 22): We now have this thrips in Stuart, Sanford, Palmetto, Ellenton, Winter Haven, and Dundee. The infestations at Stuart, Ellenton, and Sanford were severe.

Michigan

E. I. McDaniel (April 16): A very severe infestation of the gladiolus thrips was found on the corms grown on the Botany Experiment Farm at the Station, East Lansing. All corms were apparently free from disease and insects last fall when stored. Those in trays near the top of the room were most severely infested. Other places in Michigan where this insect has been recorded are Owosso, Flint, and around Port Huron.

HACKBERRY

HACKBERRY BUD GALL (*Pachypsylla zemma* Riley)

New England
and
New York

E. P. Felt (April 22): The hackberry bud gall is locally abundant on its food plant in southwestern New England and southeastern New York.

BARNACLE SCALE (*Scutoplastes cirripediformis* Comst.)

Georgia

J. B. Gill (April 25): Shade trees, especially the hackberry and some ornamentals in the vicinity of Albany have been found to be heavily infested.

*F. F. Smith (April): Specimens received from P. T. Ulman, Ft. Wayne, Ind., in April and from C. A. Horsefeld, Baltimore, Md., in February have been identified by H. Morrison as *Taeniothrips gladioli* Moulton.

HOLLY

HOLLY LEAF MINER (Phytomyza ilicis Curt.)

New York

E. P. Felt (April 22): The holly leaf miner was reported by Mr. G. C. Pike as causing considerable foliage injury at Lawrence, Long Island, N. Y.

MAGNOLIA

TULIP TREE SCALE (Toumeyella liriodendri Gmel.)

Indiana

J. J. Davis (April 26): Magnolia scale (T. liriodendri) was reported abundant on Magnolia at Pekin in January. The reporter advised that it had been very abundant for the past two years.

OLEANDER

OLEANDER SCALE (Aspidiotus hederac Vall.)

Nebraska

M. H. Swenk (March 20 to April 20): Reports of infestations of oleanders by the oleander scale were received during April.

ROSE

ROSE APHID (Macrosiphum rosae L.)

Texas

P. D. Sanders (April 14): A man brought specimens of these insects into the Plant Quarantine and Control Administration office for determination. Very injurious in El Paso.

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

MOSQUITOES (Culicinae)

Connecticut

N. Turner and R. C. Botsford (April 22): The first larvae of Aedes cantator Coq. of the season were found along the shore and were about half-grown.

South Carolina

W. E. Dove, D. G. Hall, and F. M. Prince (April 14): Salt-marsh mosquitoes (A. sollicitans Walk.) have become extremely abundant in the low coastal areas.

D. G. Hall (April 21): Culex quinquefasciatus Say is uncommonly abundant in houses at Charleston this spring.

Missouri

L. Haseman (April 25): Various species of mosquitoes (Culex spp. and Anopheles spp.) were beginning to move from hibernation and attacking people at Columbia the early part of April.

Mississippi

H. Dietrich (April 21): Mosquitoes, mostly the salt-marsh species, and a punkie, probably Culicoides canithorax Hoffm., were very abundant on the coast near Ocean Springs on March 27.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Virginia

G. T. French (March 29): This case was referred to us by the City Health Department of Richmond and occurs on the ground floor, which is a semibasement, in the down-town section of Richmond, and in the same block with a rather large market. The upper stories of the building are used as a hotel. The rooms that are infested are occupied by real estate people who report that the mites are very annoying to them because of the irritation that results from the bites. A second report has come to us recently from the same block, and this material was forwarded by a barber. This mite has not been reported to us previously and we have had no other experience with it. The mites are capable of covering considerable ground and are crawling around pretty generally on the wooden wainscoting as well as on the floor. One rat was injured in some way not long ago in these rooms and the people told us it was literally covered with these mites. So there is no doubt apparently that the rats which are overrunning the building are carrying the mites.

DEER FLIES (Chrysops spp.)

South Carolina

D. G. Hall and F. M. Prince (April 26): Early spring species of deerflies are very annoying to man and animals on or near drainage ditches in the coastal areas.

CATTLE

HORN FLY (Haematobia irritans L.)

Missouri

L. Haseman (April 25): Horn flies were beginning to annoy cattle somewhat by April 15 though they were not very abundant.

STABLE FLY (Stomoxys calcitrans L.)

Missouri

L. Haseman (April 25): Stable flies were appearing in small numbers April 20.

Kansas

E. G. Kelly (April 22): Stable flies were observed laying eggs and annoying cattle at Kingman March 31. Many larvae and puparia found at Great Bend.

SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus Nitz.)

Nebraska

M. H. Swenk (March 20 to April 20): A Nuckolls County correspondent reported an infestation of his cattle with the short-nosed cattle louse in early April.

AN OX WARBLE (Exoroderma sp.)

Kansas

E. G. Kelly (April 22): Adults were out in Greenwood County March 31. Saw herds running in Sedgwick and Kingman Counties. Have found no grubs since March 1.

HORSE

BUFFALO GNATS (Simuliidae)

Mississippi

F. A. Smith (April 20): Buffalo gnats were very abundant the first of the month in Tate, Panola, DeSoto, Tunica, and Quitman Counties.

POULTRY

CHICKEN MITE (Dermanyssus gallinae L.)

Mississippi

F. A. Smith (April 20): The common chicken mite is abundant in Tate and Quitman Counties.

HOUSEHOLD AND STORED-PRODUCTS

I N S E C T S

TERMITES (Reticulitermes spp.)

General

T. E. Snyder (March): During the month of March 159 cases of termites were reported to the Bureau of Entomology. The following list gives the number of cases reported from each Section. New England, 2; Middle Atlantic, 65; South Atlantic, 38; East Central, 18; West Central, 4; Lower Mississippi, 15; Southwest, 12; Pacific Coast, 5.

Connecticut

M. P. Zappe (April 21): We have received reports of injury by termites from Manchester, Branford, New Haven, and Union. They have apparently been present for some years. One modern and very expensive home attacked and the timbers in the cellar are badly eaten. This is the fifth case of injury reported in the last six months, previous complaints having been rather rare.

South Carolina W. E. Dove, D. G. Hall, and F. M. Prince, (April 28): Numerous requests for information on termite control have come to hand during the past few weeks.

Illinois J. H. Bigger (March 26): Two outbreaks in Canton were seen, while reports are that numerous houses have been damaged. One outbreak in Jacksonville was investigated. All are properties built in the last fifteen years. Two were apparently well-built brick and concrete buildings.

Kansas E. G. Kelly (April 22): Stakes were destroyed in alfalfa fields in Greenwood County since last summer.

California R. Bogue (April 22): There is a heavy infestation of R. hesperus Bks., at El Monte.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Alabama J. M. Robinson (April 20): The Argentine ant is reported from Wetumpka and Auburn.

BETTERES.(Anobiidae)

Rhode Island A. G. Boving (April): The following comment was made on a
and determination by Dr. Boving of specimens received from Dr. A.
Louisiana E. Stone, Kingston, which were identified as Xestobium sp. This insect injured books in a record vault of the Superior Court, Providence, R. I. Another large anobiid larva (Nicobium hirtum Ill.) is known as damaging library books in Louisiana.

PEA WEEVIL (Bruchus pisorum L.)

Michigan R. H. Pettit (April 28): We have been receiving specimens of the pea weevil recently, mostly from small gardeners in seed held over for planting. This insect has not been of economic importance in Michigan for a number of years.

Idaho C. Wakeland (April 19): The pea weevil was beginning to fly April 10, or possibly a few days earlier in the vicinity of Moscow.

SOUTHERN COWPEA WEEVIL (Callosobruchus maculatus Fab.)

Mississippi H. Dietrich (April 21): The southern cowpea weevil is extremely abundant in cowpea seed improperly stored in George and Perry Counties.

INSECT CONDITIONS IN PORTO RICO DURING FEBRUARY AND MARCH, 1932*

M. D. Leonard

Insular Experiment Station, Rio Piedras, Porto Rico.

The sugarcane scale (Aspidiotus sacchari Ckll.) was moderately common on a large lot of Uba cane being loaded at the dock on Vieques Island, on March 23.

A sugarcane mealybug, Pseudococcus sacchari Ckll., was found moderately common on both Uba and Crystalina cane in several sections examined on Vieques Island on an inspection trip on March 23.

A mealybug, Pseudococcus boninsis Kuwana (calceolariae of authors), was not uncommon on sugarcane in several localities on Vieques Island examined in company with C. E. Pemberton on March 23.

Larvae of a curculionid beetle, Lechriops psidii Marshall (Buchanan & Shving det.) found in mummied guavas in Bayamon on January 11. (C. G. Anderson.) The type is from Porto Rico and was described from specimens causing mummied guavas; this is the second record from the Island.

The melon aphid (Aphis gossypii Glov.) was heavily infesting the tender twigs and leaves of many young grapefruit trees at Anasco on January 27 (A. G. Harley). Apparently this is the first record of injury or even occurrence on citrus in Porto Rico. It was also heavily infesting a 2-acre planting of cassaba melons at Loiza on January 8.

White grubs, Phyllophaga spp., were reported on April 13 as having severely injured a number of pineapple fields at Vega Baja and Corozal during November and December, 1931. (E. Rivera)

The grapevine aphid, Aphis illinoisensis Shimer, was present in small numbers on several vines in the arbor of the Hotel Melia's patio at Ponce early in March.

A bean lacebug, Corythucha gossypii Fab. (H. G. Barber det.) was heavily infesting the foliage of 20 papaya trees at the Substation at Isabela on March 8. (C. G. Anderson.)

*Correction: Typographical errors led to the publication of Empoasca fabanae and E. Jabanae in Porto Rico in the Insect Pest Survey Bulletin during 1931. There are no such species. All these records refer to E. Fabalis DeLong.

A lima bean pod-borer, Maruca testulalis Geyer, was found in 1 per cent of the lima bean pods at Rio Piedras, on January 15 (A. S. Mills). Also one larva in cull pigeon peas at Arecibo on February 2 and another larva on February 4 in lima bean pod. (C. S. Anderson and A. S. Mills). On February 29, 5 per cent of 100 cull lima bean pods were found infested at Arecibo and on March 1, 3 larvae found in a hamper of string bean pods from Isabela. (C. S. Anderson). Three larvae of a braconid parasite, Microbracon thurberiphages Mues. (C. F. W. Muesebeck det.) were found infesting one out of 20 larvae of M. testulalis in the pods of lima beans at Cidra on February 2 (A. S. Mills.) This is the first record from Porto Rico.

Larvae of a bean pod-borer, Fundella cistipennis Dyar (C. Heinrich det.), were found lightly infesting a 2-acre lima bean field at Loiza on January 4. (A. S. Mills.)

A noctuid, Phytometra oo Cram. (W. Schaus det.), was lightly infesting a small garden patch of lima beans at Rio Piedras on January 15.

The fall armyworm, Laphygma frugiperda A. & S., was lightly infesting the pods in a 1-acre patch of lima beans at the Substation at Isabela on January 12. (C. G. Anderson)

Larvae of the tobacco budworm (Heliothis virescens Fab.) were found eating into pigeon-pea pods in a small package from Aguas Buenas on January 21 (A. S. Mills; C. Heinrich det.); also 5 larvae were found infesting pigeon-pea pods in a hamper from San Sebastian examined on January 26. (A. G. Harley.)

Larvae of a eulophid, Grotiusomyia nigricans How. (C. F. W. Muesebeck det) were found feeding on Lamprosoma indicata Fab. larvae on lima beans at Rio Piedras on January 15. (C. G. Anderson.) Apparently it has not before been recorded from Porto Rico.

A bean leaf-beetle, Cerotoma ruficornis Oliv., (H. S. Barber det.) was observed moderately infesting a 2-acre field of lima beans at Loiza on January 18 and lightly infesting a 1-acre field at Rio Piedras on January 1. (A. S. Mills.)

A leaf beetle, Diabrotica graminea Baly, was reported on February 2 as doing considerable damage to both snap beans and Irish potatoes at Orocovis.

Cutworms (Noctuidae) had destroyed about 5 per cent of one-month-old Irish potato plants on one-half acre at Aibonito by February 3, although many of the injured plants were sending up new shoots; Severo Pagan, Agr. Agt. at Aibonito, reported that 4 or 5 plantings in the vicinity were similarly affected. (F. Chardon.) Mr. J. E. Raymer reported on February 15 that cutworms had been at that time working for about 3 weeks on 10 acres of his pineapples at Arecibo, causing a loss of about 1.3^{per cent} of the plants by eating out large holes and destroying any market value of these plants.

An eggplant lacebug, Corythiaca planaris Uhler (H. G. Barber det.), was moderately infesting the leaves of 10 out of 40 eggplants inspected at Juncos January 25. (R. Faxon.)

Five moths of the pyralid Argyria opposita Zeller (W. Schaus det.) were collected on eggplant leaves at Juncos January 25. (R. Taxon.)

The green peach aphid (Myzus persicae Sulz.) was found to be lightly infesting the leaves of a 5-acre pepper field at Loiza on February 8, 1932. (R. Taxon.)

The melon worm (Diaphania hyalinata L.) was feeding on pumpkin leaves at Juncos on January 25. (R. Taxon.)

The cotton leaf worm (Alabama argillacea Hubn.), though present during February and March, was almost a negligible factor on the south coast crop. (C. C. Morrow.)

The pink boll worm (Pectinophora gossypiella Saund.) has been scarce on the south coast cotton crop during February and March. (C. C. Morrow.)

A pit-making scale, Asterolecanium pustulans Ckll., was observed badly infesting mango trees at Rio Piedras on February 23. (F. Sein.) This species was also very abundant on a number of oleanders at Guanica on March 12.

A water lily aphid, Pentalonia nigronervosa Coq., (F. Sein det.) was reported by Dr. N. L. Britton as infesting several water lily plants at Santa German on December 29, 1931, and in March, 1932. In February several plants were killed at Santurce, the leaves being badly infested and curled. (F. Sein.)

The red-banded thrips (Heliothrips rubrocinctus Giard) defoliated several trees of the Cashew nut or pajuil, in September, 1931, and on February 23, 1932, at Rio Piedras. (F. Sein.)

On February 26 a casuarina hedge at the Colegio Puertorriqueno was found lightly infested by the cottony-cushion scale (Icerva purchasi Mask.); some "Gallego" plants, Polysias guilfoylei, were also somewhat infested. (F. Sein.)

THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

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INSECT PEST SURVEY BULLETIN

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THE MORE IMPORTANT RECORDS FOR MAY, 1932

During the first week in May grasshoppers began hatching quite generally in northern Utah, and were starting to hatch in South Dakota and Nebraska. During the second week in the month (May 13) they were first observed hatching in Minnesota, North Dakota, and Iowa, and second-instar nymphs were observed in the field in Missouri. By the 3rd week of the month they were so abundant in southwestern Oklahoma and over a wide territory in Texas as to require remedial measures and the farmers were starting to use poisoned bran. The situation is reported as serious in the Great Plains region and in scattered localities southward to Texas.

The cutworm situation reported in the last number of the Insect Pest Survey Bulletin has not materially changed. Reports of occurrence have been received from the greater part of the country.

The Hessian fly infestation appears to be heavier and more general throughout the winter wheat belt than it has been in several years.

The chinch bug situation has not materially changed. Despite the cold rains in early May, these insects are still present in threatening numbers in southern Illinois and central Missouri.

The green bug developed to destructive numbers in west-central Missouri and northwestern Mississippi. A small outbreak was also reported in south-central Pennsylvania.

The corn ear worm put in its appearance during the month in the southern half of Mississippi; by the third week in the month there was a heavy infestation on tomatoes in the Gulf Coast district of Texas.

Reports of heavy infestations of alfalfa by the pea aphid have been received from Pennsylvania, South Carolina, Ohio, and Mississippi. The numbers of these insects were decidedly below normal this month in Wisconsin and Oregon.

By the first of the month an unprecedented flight of moths of the alfalfa webworm (Loxostege commixtalis Walk.) occurred in Colorado and

Wyoming. The moths were so numerous as to occasion the closing of stores in some towns and materially inconvenienced motorists by their enormous numbers. By the end of the month new plantings of alfalfa were being damaged and eggs were very numerous in the field.

The alfalfa weevil has been found well established in the San Joaquin Valley of California.

Estimates of damage as high as 20 per cent by the sugarcane beetle to rice and sugarcane have been reported from Louisiana.

In southern Illinois first emergence of the codling moth in cages was on April 22 with a heavy emergence on May 3. The peak of emergence occurred in central Illinois by the 20th up to which date no emergence had been recorded in the northern part of the State. The first adults were observed in Delaware May 4, in southern Pennsylvania May 11, and in central Pennsylvania May 19, in Ohio May 6, in central Missouri May 4, and in northern Missouri May 9. In the Pacific Northwest the first emergence was recorded on May 6 in Washington State and on May 8 in southern Idaho.

The eastern tent caterpillar is quite generally abundant along the Atlantic seaboard southward to Maryland.

The aphid situation in the eastern fruit belt from New York to Virginia is not unusual. However, at Fort Valley, Ga., the apple aphid is appearing in large numbers.

The oriental fruit moth started emerging in Delaware April 5 and during the last week in the month was emerging in large numbers. In Georgia larvae appeared in twigs by the middle of May. This is the latest appearance of first-brood larvae since the insect became established in that State. In the East Central States it seems to be increasing in numbers, and is for the first time generally distributed over northwestern Arkansas.

The plum curculio is reported as a week later than last year in the north-central section of Georgia. Full-grown larvae were leaving the drop by the middle of the month. The insect is apparently but moderately abundant over the East Central States and somewhat more abundant than usual in Kentucky, Missouri, Arkansas, and Mississippi.

During the month the vegetable weevil was discovered in Atlanta, Ga., the easternmost record for the distribution of this insect. It was also reported from 8 additional counties in Mississippi, which State is now entirely infested except the northernmost tier of counties.

The seed corn maggot was reported as doing some damage along the Atlantic seaboard from South Carolina to Maryland.

Onion thrips were causing very severe injury to a large variety of truck crops in the important commercial trucking sections of eastern South Carolina.

By the middle of the month the Mexican bean beetle started to appear in the fields in the Middle Atlantic States. In North Carolina this insect is already doing considerable damage.

The bean leaf beetle appeared in destructive numbers in the South Atlantic, East Central, and lower Mississippi Valley States.

Brood VI of the periodical cicada started to appear during the last week in May in the District of Columbia and in near-by Maryland and Virginia, and in Adams County, Pa. Emergence in large numbers was recorded at this time from western South Carolina.

The larch case bearer is reported as very prevalent throughout the New England States and in southern Pennsylvania.

The black widow spider has been found in rather large numbers in eastern Maryland during the late winter and early spring months.

The Argentine ant was recorded as having successfully overwintered outside of greenhouses in Baltimore, Md. This is the northernmost record for establishment of this pest out of doors.



- Wyoming A. G. Stephens (May 20): Grasshoppers are moderately abundant in the east and southeast.
- Colorado G. M. List (May 24): Grasshoppers are moderately to very abundant. Hatching began about May 1. About at height now. Situation probably not so bad as last year.
- Idaho C. Wakeland (May 21): We are just beginning to receive reports on grasshoppers. The season is later than usual, with very much more precipitation than normal, so that hatching has been delayed. Eggs are beginning to hatch in the Lewiston district; and we have reports also of hatching from Cassia County. We expect rather severe injury in a few districts of the State, namely, Cassia and Bingham Counties.
- Nevada G. G. Schweis (May 21): Grasshoppers of various species have been reported in large numbers from three counties of western Nevada. These hoppers have just hatched or are still in the process. Considerable poisoned-bran bait is being used, with success.
- Utah G. F. Knowlton (May): Eggs began to hatch in the vicinity of Logan during the last few days in April. In early May hatching was quite general in Tooele County and northern Utah. By the middle of the month the young hoppers were being reported from Miller County as becoming abundant, and toward the end of the month they were being very generally reported from the entire northern part of the State. (Abstract, J.A.H.)

CUTWORMS (Noctuidae)

- Maryland E. N. Cory (May 13): Truckers report an unusual abundance of cutworms.
- South Carolina A. Iutken (April 28): Cutworms are general and very abundant.
- Ohio T. H. Parks (May 25): Cutworms (Nephelodes ermedonia Cram.) are very abundant. They destroyed about 3 acres of bluegrass in a pasture in Harrison County. The weather is very dry. A disease is killing many of the worms. Climbing cutworm injury to apple trees was reported from Erie, Columbiana, and Mahoning Counties.
- Illinois J. H. Bigger (May): Variegated cutworms (Lycophotia margaritosa saucia Hbn.) were reported in considerable numbers from April 25 to May 10, in western Illinois.
- Kentucky W. A. Price (April 23): The bristly cutworm (Polia renigera Steph.) and the clay-backed cutworm (Feltia gladiaria Morr.) have been reported from several sections of the State, where they have caused much damage to grass, clover, alfalfa, and tobacco in the bed.

- Michigan R. Hutson (May 21): Several species of climbing cutworms, chiefly Rhynchagrotis alternata Grote, are numerous on fruit trees generally in the western half of the State.
- North Dakota J. A. Munro (May 23): Several reports of cutworm injury have been received from Dunn and other western counties. So far the worms have not caused any widespread injury, but the prospects are that they will prove very destructive.
- South Dakota H. C. Severin (May 20): The western army cutworm (Choriza auxiliaris Grote) is very abundant in central and western South Dakota and has taken entire fields of small grain. It has also destroyed numerous gardens and fields of potatoes.
- Minnesota A. G. Ruggles and assistants (May): Although cutworms are generally reported, they are not unusually abundant over any considerable part of the State. (Abstract, J.A.H.)
- Iowa C. N. Ainslie (May 26): There is much complaint throughout northwestern Iowa of injury to gardens by cutworms that appear to be unusually numerous this spring.
- Kansas H. B. Hungerford (May 23): Cutworms are very abundant.
- Missouri A. F. Satterthwait (May 9): There seem to be many cutworms in my garden at Webster Groves. Nearly all appear to be Feltia gladiaria Morr.
- L. Haseman (May 21): I have received only a few complaints of cutworms but they are still at work, May 20.
- Alabama J. M. Robinson (May 20): Cutworms are very abundant at Ozark affecting several thousand acres of field crops.
- Mississippi C. Lyle and assistants (May): Cutworms are not unusually abundant over the greater part of the State this spring. Reports of some damage to newly set tomatoes have been received from Lamar, Alcorn, and Lee Counties. (Abstract, J.A.H.)
- Colorado G. M. List (May 24): The army cutworm is moderately abundant in a number of sections in the State. In some fields it is doing damage to alfalfa and moving out into beet fields and other cultivated crops.
- Utah G. F. Knowlton (April 26): Cutworms are seriously damaging several hundred acres of alfalfa in Delta, Oasis, Woodrow, Oak City, and Hinckley sections of Milford County. Approximately one hundred acres of dry-farm wheat are reported as being seriously damaged at Oak City. Cutworms are damaging alfalfa in the West Mountain district of Utah County, and garden crops

in the Provo area. (April 28): Cutworms are seriously damaging pastures in the Hopper, Roy, and West Weber areas of Weber County. Alfalfa is damaged to a less extent in the same areas.

Texas

F. L. Thomas (April 21): Prodenia ornithogalli Guen. is more abundant than usual in Calhoun and Brazos Counties, possibly because cotton is very much later than usual. (May 23): C. auxiliaris, or a very closely related species, has been so abundant at Lubbock and Big Spring the past three weeks that the adults have been very annoying to persons in houses.

Nevada

G. G. Schweis (May 21): Cutworms are very abundant in Fallon and Reno. They did heavy damage on early alfalfa.

Wyoming

A. G. Stephens (May 20): Army cutworms are very abundant in northeastern Wyoming, and there have been heavy infestations in Crook, Campbell, and Sheridan Counties.

Montana

A. L. Strand (May 20): The army cutworm did heavy damage during April and May in parts of the State which received fall rains in 1931. Most of this damage was in winter wheat and was not prevalent in the southeastern tier of counties. The predicted outbreak of the pale western cutworm (Porosagrotis orthogonia Morr.) has occurred, although it is not so wide spread as indicated by our forecast. Several hundred acres of fall and spring wheat have been destroyed in Gallatin County alone.

Washington

E. J. Newcomer (May 20): Cutworms (Euxoa sp., Feltia ducens Walk., and Eriopyga sp.) are making more trouble than usual, especially to gardens.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

Louisiana

W. E. Hinds (May 26): Salt-marsh caterpillars have been quite abundant through the early spring but are generally rather heavily parasitized and will probably not be destructive in the second generation.

Texas

F. L. Thomas (May 23): The salt-marsh caterpillar was reported from seven counties of northeastern Texas and from two counties in the southern portion.

Correction: The note on Estigmene acraea Drury by J. R. Watson, page 84, Insect Pest Survey Bulletin, has been corrected. Specimens were bred and identified as Apantesis phyllira Drury.

WHITE GRUBS (Phyllophaga sp.)

- Maryland E. N. Cory (May 17): White grubs are very abundant.
- Georgia W. H. Clark (April 25): County Agent Webb reported considerable foliage injury to pecans at Talbotton by beetles.
- O. I. Snapp (May 11): Adults were observed feeding during the day on the roots of carrots, where they had gotten under the soil for hiding and protection. They had ruined a plot of that vegetable at Fort Valley.
- Ohio J. S. Houser (May 26): A heavy flight of May beetles is taking place at Wooster. The insects are much more abundant than in 1918.
- Illinois J. H. Bigger (May): White grubs are very abundant in western Illinois. There were heavy flights of adults on the evenings of May 6 and 7.
- Minnesota A. G. Ruggles and assistants (May): White grubs were reported as unusually abundant and in very large numbers from Houston and Cottonwood. Heavy flights started in the southern part of the State the latter part of April and in the vicinity of St. Paul during the first week in May. (Abstract, J.A.H.)
- Iowa C. N. Ainslie (May 26): These beetles are actively feeding on the leaves of shade trees and garden shrubs, doing serious injury in some cases. There is as yet very little complaint of white grub damage.
- Mississippi W. L. Gray (May 21): May beetles were causing considerable injury to pecan trees in Natchez on April 27.
- Louisiana H. L. Dozier (May 2): During the week of April 16 to 23 a large plot of newly plowed ground in New Orleans showed considerable numbers in the larval and pupal stages. Newly issued adults were also flying in limited numbers at the time.
- Kansas H. B. Hungerford (May 8): White grubs are very abundant. Adults are unusually abundant at Lawrence.

WIREWORMS (Elateridae)

- Pennsylvania C. A. Thomas (May 20): Wireworms (Limonius agonus Say and Melanotus sp.) have already caused some damage to potato seed pieces in Bucks and Chester Counties. The cool wet weather of the first half of May has been particularly favorable to them. The adults were found mating in large groups on May 20.

North Carolina

W. A. Thomas (May 9): Within the past few days the larvae of Monocrepidius vesper-tinus Fab. have been observed frequently feeding on the under surface of ripe strawberries which were in contact with the soil at Chadbourn. Where the berries are on proper mulch, holding them above the soil, they seem to be less damaged.

Ohio

T. H. Parks (May 24): Wireworms are very abundant. They have destroyed a field of young celery plants in muck land of Portage County.

Montana

A. L. Strand (May 20): Damage by Iudius sp. has been severe in spring wheat.

California

A. E. Michelbacher (May 19): Two new infestations of wireworms have come to my attention during the past month. The first of these was in Oakland, where a wireworm believed to be L. canus Lec. was attacking corn. The second infestation, and by far the worst, is on an island in the Sacramento River Delta near Rio Vista. On this island the wireworm has done considerable damage the past several years. Here again it is believed that the wireworm is the larva of L. canus. (Det. Dr. Van Dyke) A year ago it destroyed 120 acres of sugar beets. This year Egyptian corn has been planted in the same field and it looks now as if it is going to be damaged considerably by this pest.

A FALSE WIREWORM (Eleodes hispilabris Say)

Montana

A. L. Strand (May 20): This false wireworm is more prevalent than it has been for several years.

CEREAL AND FORAGE-CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

United States

C. M. Packard (May 28): Spring Hessian fly infestation appears to be heavier and more general throughout the winter wheat belt than it has been in several years.

Indiana

J. J. Davis (May 26): The Hessian fly seems to be moderately abundant throughout the state so far as reports received indicate. An especially heavy infestation was reported from Williamsport, May 20. The insects submitted were at the base of plants and in half-grown larval stage to flaxseeds.

Illinois

W. P. Flint (May 20): The spring brood is causing much more damage than was at first anticipated. Many fields of wheat are severely injured at this time before the heads have started to form and it is certain that much of this wheat will break over as soon as the heads start to fill.

Missouri

F. D. Butcher (May 12 - 13 & 16): Wheat fields examined in Boone, Warren, St. Charles, St. Louis, and Perry Counties were generally infested. Almost every stool had tillers infested; from 25 per cent to 90 per cent of straws were infested with from 1 to 18 maggots or flaxseeds.

L. Haseman (May 20): The Hessian fly situation is alarming; some spring-brood larvae are entering the flaxseed stage.

Kansas

H. R. Bryson (May 27): A heavy infestation is developing in fields in the vicinity of Manhattan as reported May 25. Some fields have been plowed up. The first flaxseeds of the first spring generation were seen May 3. The first eggs of the second spring generation were seen in the field May 17. Infestations have been reported from Rooks and Ellis Counties.

Oregon

M. M. Reeher (May 1): First eggs of the spring brood were found on April 1 in Washington County.

WHEAT STRAW WORM (Harmolita grandis Riley)

Kansas

H. R. Bryson (May 27): Adults of the second generation were seen in the field May 7. They are not yet abundant at Manhattan. A heavy first generation infestation is reported at Hays.

CHINCH BUG (Blissus leucopterus Say)

Illinois

W. P. Flint (May 20): Mr. Chandler reports infestation in some areas evidently reduced by rains earlier in the season. Considerable numbers of adults were killed by cold, beating rains the first of May, but not enough to reduce greatly the threatening infestation.

South Dakota

H. C. Severin (May 20): We have received a few complaints from Douglas and Charles Mix Counties regarding increasing numbers of chinch bugs, but no serious damage is expected.

Iowa

H. E. Jaques (May): Chinch bugs were reported as very abundant in Des Moines County.

Missouri

L. Haseman (May 21): Chinch bugs are very abundant in wheat and oats in a belt across the central part of the State. Adult taken mating May 3-10 oviposited in the laboratory and eggs hatched May 20.

GREEN BUG (Toxoptera graminum Rond.)

Pennsylvania

J. S. Pinckney and E. J. Udine (May 23): An infested field of timothy at Carlisle came to our attention May 9. Characteristic dead spots varying in diameter from a foot or two to 60 feet occurred. About one-third of the field was killed. We had

earlier noticed the green bug in limited numbers in wheat on this farm, but the wheat was not injured. Most of the damage to timothy occurred before May 9; at that time parasites were at work and winged aphids were developing. At this writing, May 23, the infestation is on the wane. (Det. F. M. Wadley.)

Missouri L. Haseman (May 2): The county agent in Vernon County and Extension Entomologist Jones report injury to wheat and oats. Some fields are reported practically ruined in these counties. Samples from Scott County show an excessively heavy percentage of parasitism. (May 21): Only a few additional complaints on the green bug have been received this month from west-central Missouri.

Mississippi G. I. Worthington (May): A general infestation of spring oats was observed in Bolivar County. Severe damage in local areas in fields. Lady beetles and larvae present in small numbers and feeding on aphids April 18.

ARMYWORM (Cirphis unipuncta Haw.)

Indiana J. J. Davis (May 26): Armyworm moths were common at lights at Lafayette May 1. A student reported finding several moths several nights previous.

Mississippi G. I. Worthington (May): The armyworm appeared in oats in Washington County at Estill May 1, seriously damaging about 100 acres of a 250-acre field. Caterpillars began to pupate May 6.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

North Carolina W. A. Thomas (May 5): The leaf-footed plant bug has been very abundant during the past few weeks on wheat in the blooming stage at Chadbourn. The heads are dotted with these insects, which seem to be feeding on the developing grains within the heads.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

Mississippi C. Lyle and assistants (May): The corn ear worm is appearing in moderate numbers on early corn in the southern half of the State. (Abstract, J.A.H.)

Texas F. L. Thomas (April 19): Approximately 75 per cent of tomato plants are infested with young larvae in Jefferson County.

SOD WEBWORMS (Crambus spp.)

Pennsylvania H. E. Hodgkiss (May 27): Sod webworms are abundant in some localities in the central and eastern part of the state, where it is causing some trouble.

Ohio T. H. Parks (May 24): Sod webworms are no more abundant than usual in cornfields; and careful searching has resulted in few being found in lawns.

Tennessee J. U. Gilmore and Joe Milam (May 25): Crambids (C. caliginosellus Clem.) have already damaged several newly planted tobacco fields at Clarksville, necessitating the application of the control measure.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Mississippi C. Lyle (May 21): Of 29 young corn plants collected by Inspector L. J. Goodgame near West Point on May 12, 27 had been injured.

A FLEA BEETLE (Chaetocnema sp.)

Maryland J. A. Hyslop (May 25): Flea beetles are injuring sweet corn in my garden at Avenel.

Ohio T. H. Parks (May 24): Flea beetles (Chaetocnema sp.) have been injuring young corn soon after it came above ground. A field of sweet corn near Toledo was destroyed and the beetles are now common on corn in the Scioto Valley. They do not eat holes in the leaf but eat along the under sides of the leaves leaving the upper membrane intact.

Kansas H. R. Bryson (May 27): Corn flea beetles were reported injuring corn at Winfield, May 13.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Kalt.)

Delaware L. A. Stearns (May 19): In the past two weeks aphids have been abundant in alfalfa and clover.

Pennsylvania H. N. Worthley (May 23): Alfalfa generally is heavily infested with aphids. Attacks were reported two weeks ago in the southern counties, and now about State College.

South Carolina A. Lutken (April 23): Pea aphids are very abundant on vetch and English peas.

Indiana J. J. Davis (May 26): The clover aphid has been abundant in clover and alfalfa fields. It was reported abundant and destructive to young alfalfa, generally in southeastern Indiana, April 29 to May 3. Much damage was reported in some areas. The fungus was apparently responsible for checking the impending outbreak.

Ohio

T. H. Parks (May 24): The pea aphid has been very serious on some of the older stands of alfalfa and on peas at Chillicothe. A visit to the area May 14 showed that two small fields of alfalfa had been so badly injured that they will be plowed under. The aphids migrated from the alfalfa to the adjoining peas and were causing great injury on them.

Wisconsin

J. E. Dudley, jr. (May 4): There was an average hatch of aphid eggs in the hibernation experiment, but a small percentage of the aphids had sufficient vitality to live after hatching. There is good evidence in Dane County that this condition also occurred in the field. Stem-mother nymphs were very scarce up to the middle of April. It is believed the available stock present in the field is much below normal.

Mississippi

C. Lyle and assistants (May): Pea aphids attracted a great deal of attention in various parts of the State during the latter half of May, being particularly numerous on English peas. (Abstract, J.A.H.)

Tah

G. F. Knowlton (May 11): Pea aphids are moderately abundant in alfalfa at Hopper.

Oregon

L. P. Rockwood (May 1): Pea aphids are from one tenth to one twentieth as numerous on field peas, vetch, and Austrian thistle as they were at this time last year. During late March about 15 per cent were parasitized by Aphidius sp. in one field. The fungus Entomophthora aphidis killed about 10 per cent during late April in the same field. Coccinellid adults are but one fifth to one tenth as numerous as at this time last year, the greater part of the decrease being in Hippodamia spp. rather than in Coccinella sp.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Indiana

J. J. Davis (May 26): The clover leaf weevil was reported abundant at Kokomo, May 9, but all specimens received were attacked by the fungus which normally holds them in check.

ansas

H. B. Hungerford (May 8): The clover leaf weevil was serious in places about Lawrence.

Oklahoma

C. F. Stiles (May 24): The clover leaf weevil is doing considerable damage to alfalfa fields in Payne County and has also been reported from Pottawatomie County. It has been very dry through this section of the State since early spring and this insect does not seem to be seriously affected by the fungus disease which keeps them in check.

CLOVER ROOT CURCULIO (Sitona hispidula Fab.)

Kentucky

W. A. Price (April 23): The clover root curculio has ruined several alfalfa fields in the vicinity of Frankfort and Independence.

ALFALFA WEBWORM (Loxostege commixtalis Walk.)

Colorado

G. M. List (May 24): The moths of what is known locally as the alfalfa webworm, have been very numerous this spring. They first made their appearance about the first of May and are still so numerous that many reports from motorists likened it to driving through a snow storm. The stores were reported to have closed in one town because of the large numbers being attracted to lights. The larvae are beginning to do considerable damage to alfalfa. Some new plantings are badly damaged at this early date and eggs are quite numerous on a variety of plants.

Wyoming

C. L. Corkins (May 17): In fifteen years of experience in this region I have never seen the moths of the sugar beet webworm so abundant and so generally distributed as they are this year. They are simply everywhere in swarms over the eastern section of Wyoming.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. E. Hinds (May 26): The borer is abundant in some fields of most advanced corn especially in south Louisiana. The first generation began pupation about May 20. Infestation is somewhat lighter and development somewhat less advanced in Baton Rouge area. Borer egg parasitization by Trichogramma found first in garden corn in extreme south Louisiana at Bayou Salle on May 14, but natural parasitization in first generation eggs is extremely light, as usual.

SUGARCANE BEETLE (Eutheola rugiceps Lec.)

Louisiana

W. A. Douglas (April 28): The sugarcane beetle is very abundant in rice fields which have not been flooded. The average amount of injury was 21.5 per cent.

J. W. Ingram and E. K. Bynum (May 1): Injury to sugarcane showed a marked increase during the month; it was heaviest in the section around Franklin. In one field of plant cane 15 per cent of the shoots had been killed on April 11. Another dead-shoot count was made in this field on the 28th. It was found that 21 per cent of the remaining shoots had been killed.

Louisiana

W. E. Hinds (May 26): Damage to corn and cane has been reported as unusually severe and in many cases complaints have come from points entirely outside of the sugarcane belt. Rice has suffered also in some localities. Oviposition appears now to be about completed and adults are dying off. In northern Louisiana the damage has been inflicted in low moist areas especially, not on hills.

Texas

F. L. Thomas (May 1): Abundant on corn at Westfield.

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

TARNISHED PLANT BUG (Lygus pratensis L.)

- Maine C. R. Phipps (May 23): This insect is reported in unusual abundance in Aroostook County.
- New York N. Y. State Coll. Agr., Weekly News Letter (May): The tarnished plant bug began to appear during the third week in April and by the first week in May was reported as more numerous than usual in the eastern half of the State (Abstract, J.A.H.)
- Georgia W. H. Clarke (May 9): Considerable injury is being done to Elberta peaches at Madison. In an adjoining orchard of Georgia Belle practically no injury was found, although the insect was present in large numbers on a cover crop of Austrian winter peas.
- Washington E. J. Newcomer (May 20): At Yakima little additional injury has occurred to pear since the trees bloomed, most of it having been to the fruit buds. The first eggs were laid about April 1 and began hatching about April 23. The first adults from these eggs were taken May 17.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- Delaware L. A. Stearns (May 23): There was 100 per cent pupation by May 19. The first moth was observed May 4. Emergence is heavy at present.
- Pennsylvania H. N. Worthley (May 23): Emergence began May 19 at State College, and at Biglerville on May 11.
- H. E. Hodgkiss (May 27): Codling moth emerged in traps in Adams County May 14 and on May 18 about 18 per cent of the trap adults had emerged. Egg-laying was reported to me on May 24, which is the first record for the season.
- South Carolina A. Lutken (April 28): Eggs are numerous in apple orchards.
- Georgia C. H. Alden (May 20): This insect is moderately abundant at Cornelia. First-brood worms are entering the fruit, the first one May 9.
- Ohio J. S. Houser (May 26): Adults are emerging in large numbers at Wooster.
- T. H. Parks (May 24): Adults began to emerge at Ironton May 6. They have emerged daily since and eggs are being laid.

The cover spray was recommended to be applied beginning May 27. The moths began to emerge at Columbus and Wooster during the week of May 15. Only a small part of the brood has emerged up to this time at Columbus. Moths commenced to emerge near Toledo on May 24.

Indiana

J. J. Davis (May 26): Adults first emerged at Bedford, May 6, the first eggs May 9, but because of cool weather none had hatched by May 21, but were ready to hatch. At Lafayette the first moths were observed May 20.

Illinois

W. P. Flint (May 20): Southern Illinois--Emergence in cages at Carbondale started on April 22, continued slowly on account of cool weather, and began in earnest on May 3, with considerable numbers every day since, except for a few cool days. No infestation in apple has yet been observed. Emergence is about at the peak in central Illinois. Pupation is about two-thirds completed in northern Illinois, but there has been no emergence. The peak of the hatch of first-brood larvae will occur in southern Illinois about May 18 to 20 and in central Illinois about May 23 to 24.

Kentucky

W. A. Price (April 23): Dr. Eddy reports the emergence of the codling moth on April 23 at Paducah. Pupation was proceeding at a fairly rapid rate on April 30.

Minnesota

A. G. Ruggles (May): This insect seems to be somewhat abundant in Lyon and Lac Qui Parle Counties. (Abstract, J.A.H.)

Missouri

L. Haseman (May 21): Moths began to emerge about a week earlier than in 1931, but the recent cool spell has checked them somewhat. In southern Missouri the first moths emerged April 23 and at some of the breeding stations practically all the moths of the spring or first brood have now (May 20) emerged. In central Missouri the first emergence occurred on May 4 and we are now, May 20, nearing a peak of emergence. In northern Missouri breeding stations, moths began to appear May 9 to 13 and they are now emerging in goodly numbers. Bait-pan catches show that the caged moths and those in the orchard are emerging together.

Colorado

G. M. List (May 24): The codling moth came through the winter with very little mortality and is appearing somewhat earlier than usual in the western part of the State. At Grand Junction Mr. L. G. Davis caught 1,604 moths in 25 "hooch" traps during the night of May 15.

Idaho

C. Wakeland (May 21): Activity is somewhat delayed this season. The first emergence in the Lewiston district occurred on May 8 and dates in the southwestern districts were approximately the same. Mortality of overwintering larvae is extremely light; and following the heavy infestation from last year severe damage is expected this season.

Washington

E. J. Newcomer (May 20): Moths began emerging in some numbers May 6 and owing to continued warm weather a heavy emergence has occurred at Yakima since that date. During the period May 6 to 18, inclusive, 1,579 moths were captured in 5 baits, as compared with 1,189 moths during the same period in 1931 in the same 5 baits.

California

G. S. Hensill (April 26): The codling moth is moderately abundant at San Jose, first-brood adults appearing in sufficient numbers to necessitate applications of calyx and first cover sprays.

Monthly News Letter, Los Angeles County Agricultural Commissioner (April 28): In Los Angeles County the first emergence of the moth was noticed about April 18.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Maine

H. B. Peirson (May): Eastern tent caterpillars were observed May 4, and very generally in the vicinity of Augusta.

C. R. Phipps (May 23): This insect is very abundant; tents are numerous on wild cherry and apple.

New Hampshire

J. G. Conklin (May 24): The eastern tent caterpillar is very abundant in the southern and eastern parts of the State. Hatching began April 21 in Durham.

Vermont

H. L. Bailey (May 24): The eastern tent caterpillar, although only moderately abundant, is more plentiful in most parts of Vermont than it has been the case for several years.

Massachusetts

A. I. Bourne (May 24): Apple tent caterpillars were found hatching at Amherst and Waltham on or about April 26 to 28, which is a rather late date. They have been comparatively scarce throughout this immediate region. At the present time it is very seldom found at all prevalent in commercial orchards. Throughout the eastern and southeastern parts of the State, however, along the roadsides, there is plenty of evidence of continued abundance of these insects.

Connecticut

W. E. Britton (May 20): This insect is more abundant than it was last year. Is on the increase.

New York

N. Y. State Coll. Agr., Weekly News Letter (May): The eastern tent caterpillar is very abundant on roadside trees and in unsprayed orchards. (Abstract, J.A.H.)

New Jersey

M. Connor (May 21): Swamps are full of tent caterpillars.

- Pennsylvania C. A. Thomas (May 20): Tent caterpillars are very abundant in southeastern Pennsylvania. At the present time they are three-quarters to nearly full grown. They have defoliated many wild cherry trees and quite a lot of uncared-for small apple trees.
- Delaware L. A. Stearns (May 23): The eastern tent caterpillar is very abundant and destructive to roadside cherries, etc., especially in New Castle County.
- Maryland E. N. Cory (May 17): The eastern tent caterpillars are very abundant.
- F. Bauer (May 9): Many wild cherry trees are completely defoliated and webs are abundant on apple trees near Southaven, about 3 miles south of Annapolis, on South River.
- Illinois W. P. Flint (May 20): Eastern tent caterpillars were observed by Mr. Sazama abundant at Parkersburg and also quite abundant in Marion and Effingham Counties.

CASE BEARERS (Coleophora spp.)

- New York N. Y. State Coll. Agr., Weekly News Letter (May): Both species of case bearers were observed during the last week in April, and by early May they were becoming conspicuous. By the end of the month they were causing injury in scattered orchards. (Abstract, J.A.H.)
- Pennsylvania H. N. Worthley (May 23): The pistol case bearer (C. malivorella Riley) is abundant in some orchards in southern Franklin County.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

- New York N. Y. State Coll. Agr., Weekly News Letter (May): Leaf rollers began hatching during the first week in May in the lower Hudson River Valley. By the middle of the month they were hatching in central New York and during the third week in the month they were reported from the lake fruit belt. This insect seems to be more abundant than usual this year. (Abstract, J.A.H.)
- Ohio E. W. Mendenhall (May 18): I find some apple leaf rollers on apple trees in home orchards at New Carlisle.
- California G. S. Hensill (May 13): Adults of the fruit tree leaf roller are appearing in large numbers in codling moth bait traps in San Jose.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

- New York N. Y. State Coll. Agr., Weekly News Letter (May): The bud-moth was reported as very active in the lower Hudson River Valley during the first week in the month; and they were starting to appear in the lake fruit belt at about the same time. By the

middle of the month they were causing considerably more injury than last year in the Hudson River Valley. (Abstract, J.A.H.)

APHIDS (Aphidae)

Maine

C. R. Phipps (May 23): Fruit aphids are very abundant in southern Maine. Reported in considerable abundance on apple.

Wisconsin

E. L. Chambers (May 25): Aphids are very abundant all over the southern counties.

Arkansas

D. Isely (May 21): Fruit aphids are very abundant in Benton and Washington Counties. Most serious outbreak since 1922.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York

N. Y. State Coll. Agr., Weekly News Letter (May): This species was by far the most plentiful in both the eastern and western sections during the early part of the month. Late in the month the second-generation winged forms were observed, by the middle of the month in the Hudson River Valley, and during the third week in the month in the western half of the State. (Abstract, J.A.H.)

Virginia

L. R. Cagle (May 25): Grain aphids are scarce at Roanoke.

APPLE APHID (Aphis pomi DeG.)

Massachusetts

A. I. Bourne (May 24): Green apple aphids are reported in considerable abundance in orchards throughout the State. There appears to be a fairly heavy infestation, generally.

Georgia

O. I. Snapp (May 23): The infestation on apple trees at Fort Valley is one of the heaviest I have observed. Practically all of the leaves of young trees have rolled as a result of the infestation.

ROSY APPLE APHID (Anuraphis roseus Baker)

New York

N. Y. State Coll. Agr., Weekly News Letter (May): During the first week in May heavy infestations were observed in Yates, Ontario, Erie, Niagara, and other lake counties. During that week in the Hudson River Valley they were present but doing no commercial damage. A rainy period early in the month materially checked these insects throughout the State. By the middle of the month they were again on the increase, and by the third week in the month were threatening to do some damage in the western part of the State. (Abstract, J.A.H.)

Pennsylvania

J. R. Stear (May 24): Rosy aphids are very abundant at Ligonier this spring, due, I think, to the rather dry season.

Delaware

L. A. Stearns (May 23): Infestation throughout the State is light to date and very spotty.

Missouri

L. Haseman (May 21): Rosy apple aphids are causing some damage in southwestern Missouri. They have not been observed at Columbia.

Oregon

D. C. Mote (April 21): Rosy aphids are very abundant in the Willamette Valley, curling the leaves.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Washington

E. J. Newcomer (May 20): In spite of a minimum temperature of -30° F. during the winter, many woolly aphids survived on the trees and are getting an early start. However, the heavy infestation last fall resulted in the production of large numbers of predators, and these have come through the winter well and are very noticeable at the present time. Lacewing flies are especially numerous.

APPLE REDBUGS (Lygaeidae)

New York

N. Y. State Coll. Agr., Weekly News Letter (May): Lygidea mendax Reut. and Heterocordylus malinus Reut. were observed hatching during the second week in May in the lower Hudson River Valley. By the third week in the month they were appearing in the lake region. This pest appears to be more plentiful this year than last in the Hudson River Valley. (Abstract, J.A.H.)

Pennsylvania

H. E. Hodgkiss (May 27): Apple redbugs are of local importance following a severe outbreak of last year. They have almost entirely disappeared from orchards in the south-central section of Pennsylvania.

LEAFHOPPERS (Cicadellidae)

Connecticut

P. Gorman (May 20-24): The white apple leafhopper (Typhlocyba pomaria McAtee, is generally slow in appearing in many orchards in New Haven and Hartford Counties. The peak of emergence had not yet been reached on May 20. Reported as abundant in some orchards in Windham County.

New York

N. Y. State Coll. Agr., Weekly News Letter (May): By the middle of the month, apple leafhoppers (T. pomaria) began to appear in the orchards in the Hudson River Valley, and by the end of the month they were quite abundant in that section.

Delaware

L. A. Stearns (May 23): Overwintered adults are generally abundant. First nymphs were observed May 19 at Bridgeville.

Maryland

E. N. Cory (May 17): Apple leafhoppers are very abundant.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

New York N. Y. State Coll. Agr., Weekly News Letter (May): Adults were found emerging in hibernation cages on May 10; by May 13 they were coming out in numbers and continued to do so during the remainder of the month. (Abstract, J.A.H.)

Kansas H. R. Bryson (May 27): This insect is very abundant in apple orchards in Doniphan County, and is causing considerable injury to the young apples and fruit spurs.

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

Pennsylvania J. N. Knull (May 15): The first adults were observed in Fulton County on May 15. Many maple trees throughout the State which suffered with sun scald during the summer of 1930 were infested with this borer in the areas injured by the sun.

Georgia O. I. Snapp (May 13): An unusually heavy infestation has developed in devitalized portions of peach trees interplanted in a pecan orchard at Albany. The adults from these peach trees are causing serious damage to pecan twigs just below the new growth.

Tennessee H. G. Butler (May 9): Adults were observed to be rather common in peach orchards in the vicinity of Harriman last spring (1931). The first to be observed this spring (1932) was taken on May 6.

Mississippi D. W. Grimes (May): The flat-headed apple tree borer is moderately abundant on pecan at Durant.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

Ohio J. S. Houser (May 26): Practically all overwintering beetles have died around Jackson and Chillicothe. This insect for the most part is in the mature larval and pupal condition in the leaves. Young trees growing near old orchards severely damaged.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Wisconsin E. L. Chambers (May 25): Shot-hole borers are becoming very abundant in many neglected farm orchards throughout the southern part of the State.

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

Massachusetts A. I. Bourne (May 24): The European red mite was found to be hatching near Amherst on the 9th of May. On the warm days immediately following that date they appeared in large numbers.

New York N. Y. State Coll. Agr., Weekly News Letter (May): The European red mite was reported as quite generally abundant over the eastern and central part of the State. (Abstract, J.A.H.)

PEACH

PEACH BORER (Aegeria exitiosa Say)

Tennessee H. G. Butler (May 9): Larvae were observed to have left the trees and constructed cocoons in the soil on May 3 at Harriman. (May 25): Larvae collected in cocoons on May 10 were in the pupal stage May 25. Moth emergence has not yet been noted.

Virginia H. G. Walker (May 26): The peach borer is very abundant.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Kentucky W. A. Price (April 23): Injured twigs were received from Clay on April 26. Reports from Western Kentucky indicate that this injury is quite common.

Missouri L. Haseman (May 2): There is an unusually heavy twig injury due to the common peach twig borer in Boone, Cole, and other central Missouri peach orchards.

Utah G. F. Knowlton (May 11): Peach twig borers are damaging to many orchards in Utah County.

Washington E. J. Newcomer (May 20): More inquiries have come in regarding this insect than ever before around Yakima.

R. L. Webster (April 27): Peach trees have been severely injured at Clarkston.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)*

Delaware L. A. Stearns (May 23): One hundred per cent pupation by May 11; first larvae, May 11; first moths, April 5; heavy emergence about April 25 and May 5.

Virginia L. R. Cagle (May 25): The oriental fruit moth is moderately abundant at Roanoke ~~and~~ somewhat more abundant than at any time last year.

South Carolina A. Lutken (April 28): The oriental fruit moth is moderately abundant in Pickens and Oconee Counties; there is considerable twig injury.

Georgia C. H. Alden (May 20): The oriental fruit moth is moderately abundant at Cornelia. First brood moderately abundant in twigs. A few found in peaches.

O. I. Snapp (May 17): The first twig injury of the season at Fort Valley was observed today. The larvae were 3 or 4 days old. This is the latest appearance of first-brood larvae at this point since the insect became established in Georgia. The first twig injury last year was observed on April 22. The dates of first twig injury of the other years are: April 29, 1930; April 4, 1929; April 25, 1928; April 1, 1927; April 20, 1926; April 10, 1925. At least one brood less than usual is anticipated this year. The insect is of only secondary importance in this part of the Georgia peach belt.

W. H. Clarke (April 29): The first twig injury of the season was found today (April 29) in an abandoned orchard at The Rock, Upson County. This orchard has a number of late peaches and apple trees which permitted a late brood to develop last year.

T. H. Parks (May 24): The oriental fruit moth is very abundant. Injury to peach terminals is very prominent in Lawrence County. Many of the larvae were full grown and had left the twigs on May 20.

W. P. Flint (May 20): The oriental fruit moth is much more abundant in southern Illinois than was the case last year. Apparently the first-brood larvae are nearly all mature. A large number of larvae were observed in peach fruit at Centralia on May 19. This is unusual for this time of the year.

H. G. Butler (May 25): A heavier initial infestation is present than in the previous seasons. It is regarded as significant that the twig collections were for the most part obtained from orchards in which clean-up measures were not employed last fall, and opportunity was afforded for late fruit-infesting larvae to complete their development and hibernate in the orchards. (May 28): Young larvae were found in peach twigs today at Harriman. This is the earliest date on which I have found them in this vicinity.

D. Isely (May 21): Larvae are moderately abundant in a number of orchards in Benton and Washington Counties, occurring practically wherever there are mixed plantings of peaches and apples. This marks the first general infestation in north-western Arkansas.

*Correction: The note under oriental fruit moth, by C. F. Fluke, on page 94 of the May 1 issue of the Insect Pest Survey Bulletin, referred to the codling moth (Carpocapsa pomonella L.)

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

- Delaware L. A. Stearns (May 23): The peak of emergence from hibernation occurred from May 4 to 11. The insect was reported as injuring pear at Bridgeville.
- New York N. Y. State Coll. of Agr., Weekly News Letter (May): The first adult was observed in the field on May 11 in the Hudson River Valley. By the middle of the month they were emerging in numbers, though not unusually abundant. (Abstract, J.A.H.)
- South Carolina W. C. Nettles (April 28): During the week prior to April 11 one curculio was jarred from the trees. On April 11 trees were jarred and two captured from peach and plum trees.
- Georgia O. I. Snapp (May 14): Full-grown larvae began to leave peach drops at Fort Valley today. This is a week later than last year and seventeen days later than in 1930, when only one brood occurred. The present stage of development of peaches is about a month later than normal.
- W. H. Clark (April 29): In a mixed peach, apple, and plum orchard at The Rock, Upson Co., a heavy infestation was observed. Practically all peaches showed feeding and egg punctures, and in some fruits half-grown larvae were found. This orchard has received no attention this season.
- Illinois W. P. Flint (May 20): Mr. Chandler reports plum curculio infestation very light on apple this year. Owing to the shortage of the peach crop the insect is more abundant on the few peaches remaining on the trees. The injury has been done chiefly since the warm days starting May 3.
- Kentucky C. O. Eddy (May): Evidence this year shows that the curculio is much more abundant than during 1931.
- Tennessee H. G. Butler (May 25): Eggs were found in stock jars at the insectary at Harriman on May 5. The first mature larvae left fallen fruit May 18. This is four days earlier than larvae were found in 1931.
- Missouri L. Haseman (May 20): Very abundant and active at Columbia, causing plums to drop and larvae are feeding. Adults appeared early in May puncturing plum, cherry, and apple.
- Arkansas Wm. G. Amstein (May 2): Heavy attack on peaches in a small orchard at Hazen.
- C. L. Rodgus (May 7): I don't understand why we should have as many as ^{we} do at Nashville when there were practically no wormy peaches last year at harvest time.

Mississippi C. Lyle and assistants (May): The plum curculio is very abundant over the greater part of the State, infesting peaches, cultivated plums, and wild plums. In Monroe County practically all peaches are damaged. (Abstract, J.A.H.)

Texas F. L. Thomas (May 3): Infested plums were sent in by a correspondent from Tharton County.

PENTATOMID BUGS (Pentatomidae)

Pennsylvania H. B. Hodgkiss (May 27): A species of pentatomid was discovered causing extensive injury on peaches; the type of work being very similar to that of Acrosternum hilaris Say.

Illinois W. P. Flint (May 20): Mr. Chandler reports peach catfacing much more severe than last year, ranging from 8 to 30 per cent in southern Illinois orchards. It is probable that pentatomids did much of the injury this year.

HOODED PLANT BUG (Euthochtha galeator Fab.)

Georgia W. H. Clarke (May 4): Injury consisted of feeding on the tender twigs, causing them to wilt and die, at Fort Valley. Adjoining peach, plum, and quince seedlings were not attacked.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

New York N. Y. State Coll. Agr., Weekly News Letter (May): During the first week in May egg-laying increased rapidly in the lower Hudson River Valley. By the second week in the month egg-laying started in the western part of the State with nymphs becoming numerous in the Hudson River Valley. As a whole the infestation appears to be comparatively light. (Abstract, J.A.H.)

Illinois W. P. Flint (May 20): Mr. Chandler reports the pear psylla infestation light in all sections of southern Illinois.

Michigan R. Hutson (May 25): Second-stage nymphs observed in Berrien County on May 25.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York N. Y. State Coll. Agr., Weekly News Letter (May): Pear thrips are quite numerous and occasioning some damage in the lower Hudson River Valley. (Abstract, J.A.H.)

PEAR MIDGE (Contarinia pyrivora Riley)

New York

N. Y. State Coll. Agr., Weekly News Letter (May): Pear midges were observed for the first time in the lower Hudson River Valley during the last few days of April and in western New York during the first week in May. By the end of the month injury was becoming apparent in the Hudson River Valley section. (Abstract, J.A.H.)

CHERRY

CALIFORNIA ROOT BORER (Prionus californicus Motsch.)

Utah

G. F. Knowlton (April 28): The California prionus is seriously damaging cherry trees on several farms in Davis County.

A DASCILLID (Dascillus plumbeus Horn)

California

F. H. Wymore (April 26): This beetle was found to attack the buds and young leaves of small, recently planted cherry trees at Fairfield. As many as 10 beetles were removed from some of the small trees. Two-year-old cherry trees growing just across a small creek were not attacked.

PEACH BARK BEETLE (Phthorophlocus liminaris Harr.)

Pennsylvania

J. M. Knull and G. S. Perry (May 3): Many wild black cherry trees in the vicinity of Burning Well, Elk County, are heavily infested. The infestation occurred in the fall of 1931 and is due to an unhealthy condition of the trees. Increment boring showed slow growth for the last few years.

BLACK CHERRY APHID (Myzus cerasi Fab.)

California

E. O. Essig (May 20): Black cherry aphids are very abundant and destructive in the San Francisco Bay district.

COMMON RED SPIDER (Tetranychus telarius L.)

Idaho

C. Wakeland (May 21): May 11 no red spiders could be found emerging around the bases of cherry trees in the Lewiston district but on May 19 they were found abundantly on the lower leaves and many eggs had then been deposited. The red spider has caused extremely severe damage to cherries in this district during the past two seasons and the outlook this year is for a repetition of damage in orchards where control is not obtained early.

BUSH BERRIES

RASPBERRY FRUIT WORM (Byturus unicolor Say)

New York N. Y. State Coll. Agr., Weekly News Letter (May): The raspberry fruit worm has been causing more injury than in several years by skeletonizing the leaves and blasting the flowers in Orange and Ulster Counties in southern New York. (Abstract, J.A.H.)

Washington J. Wilcox and W. W. Baker (May 12): The first record we have of the adults feeding on evergreen blackberry was obtained today. The flower buds are not out yet but several specimens were seen feeding in the opening leaf buds in Puyallup. (May 12): Eggs found on thimbleberry today; the first eggs observed this season in Puyallup Valley. (May 16): Could find no eggs in either of two fields of loganberry examined in Auburn. (May 18): Eggs were found in fair numbers today in Puyallup on King raspberry. (May 20): Feeding by the adult was common on the buds of native blackcap (Rubus leucodermis) in a patch examined today in Puyallup. Only one egg was located in examining buds on several bushes though the fruits of the first blossoms are well developed.

BLACK GOOSEBERRY BORER (Xylocrius agassizi Lec.)

Washington W. W. Baker (May 15): The first specimen of this genus I have seen from this State was beaten from a native species of gooseberry today in Mineral.

A CURCULIONID (Panscopus toroidus Lec.)

Washington Wm. W. Baker (May 16): Evidence of damage to the underground portion of the new shoots was obtained today in Alderton. The adult gouges out portions of the cane from 1 to 4 inches below ground and in many cases weakens the cane so that it breaks off at about the ground level.

RASPBERRY SAWFLY (Monophadnoides rubi Harr.)

Ohio E. W. Mendenhall (May 18): The raspberry sawfly is quite noticeable in the raspberry plantations in Fairfield County.

Iowa H. E. Jaques (May 27): This sawfly is very abundant in our region this year. The top leaves of many of the plants in almost every raspberry patch are badly riddled. It is the first that it has come to our attention in our region.

AN APHID (Aphididae)

Washington

W. W. Baker (May 18): On May 7 several tiny raspberry fruit spurs were observed in Puyallup which had been injured and the growth retarded by this aphid, but at that time no nymphs were present though many cast skins were in evidence. On May 18 nymphs were abundant on many fruit spurs throughout the field. No winged forms were collected.

J. Wilcox and W. W. Baker (May 12): In five previous years in Puyallup no aphids were seen on Evergreen blackberry at this time of the year. Today many of the new shoots were heavily infested. Two grovers reported aphids as abundant on their canes and aphids have been rather serious pests in past years.

ROSE SCALE (Aulacaspis rosae Bouche)

Maryland

E. N. Cory (May 13): This insect is quite prevalent in most of the raspberry plantings in Washington County.

Ohio

E. W. Mendenhall (May 18): The rose scale is quite bad on raspberry and blackberry canes in Fairfield County.

BLACK HORNED TREE CRICKET (Oecanthus nigricornis Walk.)

Maryland

E. N. Cory (May 13): Injury has been extremely serious in Washington County.

Indiana

J. J. Davis (May 26): Tree cricket eggs were reported abundant in raspberry canes from Butler April 22.

GRAPE

GRAPE FLEA BEETLE (Haltica chalybea Ill.)

Illinois

J. H. Bigger (May): Grape flea beetles are much more numerous than usual in western Illinois. On early grapes about April 23, and late grapes May 2.

Missouri

L. Haseman (May 21): Grape flea beetles are abundant over the State. Larvae half grown May 20.

A. F. Satterthwait (May 9): Unusually destructive on grape blossoms and early foliage buds at Webster Groves.

EIGHT-SPOTTED FORESTER (Alypia octomaculata Fab.)

Kansas H. R. Bryson (May 27): Larvae have been causing considerable injury to grapes this season in Sedgwick County. They have also done some damage to grapes at Manhattan.

GRAPE BERRY MOTH (Polychrosis viteana Glen.)

Ohio E. W. Mendenhall (May 19): There are some reports of damage to home-grown grapes at Columbus. This is the first generation which attacks and webs together grape clusters even before the blossoms open.

GRAPE LEAFHOPPER (Erythroneura comes Say)

Delaware L. A. Stearns (May 23): The first appearance of overwintered grape leafhoppers on grape was observed May 17.

Michigan R. Hutson (May 25): Grape leafhoppers are feeding on raspberries in Berrien County in the vicinity of vineyards sufficiently to have become noticeable.

CURRENT

IMPORTED CURRENT WORM (Pteronidea ribesii Scop.)

Missouri L. Haseman (May 21): The imported current worm was nearly mature May 15. It is not so abundant as usual.

CURRENT APHID (Myzus ribis L.)

Ohio E. W. Mendenhall (May 24): The current aphid is very bad in central Ohio on currants.

CURRENT FRUIT FLY (Epochra canadensis Loew)

Oregon S. C. Jones (April 21): Adults began emerging on April 12 in the field.

PECAN

PECAN LEAF CASE BEALER (Acrobasis palliolella Rag.)

Georgia J. B. Gill (May 26): Damage to buds in pecan orchards of southern Georgia has not been so severe this season as during the past two years. Occasionally, however, a badly infested pecan orchard is encountered.

Mississippi C. Lyle and assistants (May): The pecan leaf case bearer is very abundant in the southern part of the State. (Abstract, J. A. H.)

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Mississippi F. P. Ansler (May): The pecan nut case bearer is doing noticeable damage to early pecans around Gulfport.

TWIG GIRDLER (Oncideres cingulatus Say)

Georgia J. B. Gill (May 26): It has been observed that the oak pruner has caused more extensive damage in the older pecan orchards of southern Georgia this spring than has been the case for many years.

A CURCULIONID (Achrastenus griseus Horn)

Texas F. L. Thomas (April 6): The insect hollows out the buds after eating a small hole in the side of pecans in Williamson and Llano Counties.

PECAN SAWFLY (Acordulecera maura McG.)

Mississippi J. P. Kislanko (May): The pecan sawfly infestation in Stone County is moderate in some places while heavy in others. The infestation in Forrest County is lighter in the northern part than in the southern part of the county.

CITRUS

GREEN CITRUS APHID (Aphis spiraeicola Patch)

Florida H. T. Fernald (April 30): Citrus aphids are extremely abundant and doing much injury, particularly where there have been no recent rains.

W. W. Yothers (May 23): Citrus aphids were more abundant and injurious during March and April than at any time since 1923-1924. They were diminishing in May.

California Monthly News Letter, Los Angeles Co. Agr. Comm. (April 28): The citrus whitefly was discovered in Pasadena and South Pasadena early in April.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida H. T. Fernald (April 30): The rust mite has been increasing rapidly during the last ten days at Orlando.

Florida W. W. Yothers (May 24): This insect is seriously abundant this year, but not unusual.

ORANGE THRIPS (Scirtothrips citri Moul.)

California S. Lockwood (May 5): This insect has been collected in Butte, Yuba, Sacramento, Fresno, Tulare, San Bernardino, Riverside, and Los Angeles Counties by myself. Horton lists it in some other counties in California.

ORANGE MAGGOT, OR MEXICAN FRUIT FLY. (Anastrepha ludens Loew)

California News Letter, Plant Quarantine and Control Administration, No. 17. (May 1): Infestations were found in 35 groves extending from San Benito to Mission during the month of March. This makes a total of 40 premises in which infestations have been found this season to the end of March. The infestations were more general in Hidalgo than in Cameron County. More groves were found infested in the Weslaco, Pharr-San Juan-Alamo, and Mission districts than in the others.

COCONUT

A SCALE (Aspidiotus orientalis cocotiphagus Marl.)

Florida E. W. Berger and G. B. Merrill (May 24): A. orientalis cocotiphagus is very abundant on coconut palms at Miami and West Palm Beach. Reported to office by J. C. Goodwin.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

- Georgia T. O'Neill (May 23): About 30 adults and one larva were submitted with report of severe injury to an open bed of tomato plants at Atlanta. First recorded from this locality May 20.
- Louisiana W. E. Hinds (May 26): The vegetable weevil has been extremely abundant in this State, but appears now to have mostly entered aestivation.
- Mississippi M. M. High (May 16): The following additional counties in Mississippi have been found infested: Winston, Webster, Chicasaaw, Calhoun, Panola, Tallahatchie, Lafayette, Lee, and Pontotoc.

FLEA BEETLES (Halticinae)

- Virginia L. D. Anderson (May 26): Potato flea beetles (Epitrix fuscula Crotch) seem to be steadily increasing in numbers each year and are causing considerable damage in Accomac and Northampton Counties.
- Maryland E. N. Cory (May 13): Truckers report an unusual abundance of flea beetles attacking most crops throughout the State.
- North Dakota J. A. Munro (May 23): Present by the thousands on radishes and onions in a garden at Carrington (Foster County). They are also abundant in the vicinity of Fargo.
- Mississippi J. P. Kislanko (May): The eggplant flea beetle, E. fuscula infestation was rather heavy in Stone and Forrest Counties during the first part of May, eggplant leaves being severely perforated.
- Utah G. F. Knowlton (May 18): Flea beetles are damaging radishes and turnips in several parts of Tooele County. They are doing less than the usual amount of damage to sugar beets.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab)

- Virginia L. W. Brannon (April 29): The first adult of the 1932 season was observed feeding on beans on April 29.
- North Carolina W. A. Thomas (May 12): The larvae of this insect are frequently found either embedded or partially embedded in ripe fruit of the strawberry at Chadbourn. This seems to be true only when the berries are lying in contact with the soil.
- Georgia O. I. Snapp (April 28): Adults are abundant on peach trees at Fort Valley, feeding on the petals, calyxes, and to some extent on the green peaches.

- Alabama J. M. Robinson (May 20): The spotted cucumber beetle is very abundant at Auburn attacking corn plants.
- WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)
- Oregon T. R. Chamberlin (May 1): Numbers of adult beetles considerably less than last year. Females dissected toward the end of April, 1932, contained many eggs of all sizes. Apparently oviposition will extend later into the season than usual.
- BLISTER BEETLES (Meloidae)
- Florida J. R. Watson (May 24): Blister beetles (Epicauta vittata Fab.) and (E. cinerea : ~~Torrey~~) are very common, doing most injury, as usual, to potatoes, tomatoes, peppers, and eggplant. They are also common on the wild coffee bean, Cassia tora, and are eating the blossoms (petals) of wild cactus, Opuntia.
- FALSE CHINCH BUG (Nysius ericae Schill.)
- North Carolina W. A. Thomas (May 17): The false chinch bug continues to be fairly abundant on spring broccoli and other crucifers at Chadbourn.
- South Carolina W. A. Thomas (May 10): It was observed today that a weed (Gnaphalium sp.) carried a light infestation in the vicinity of Charleston.
- SEED CORN MAGGOT (Hylemyia cilicrura Rond.)
- Maryland E. N. Cory (May 13): The seed corn maggot has been reported as damaging 50 per cent of the present stand of peas of one of the canners in Centerville, Queen Annes County. Also injuring sprouts of cantaloupes and watermelons in that county. Two records have been received of injury to beans in fields in Worcester County. One field of 5 acres had been destroyed. We have also had several reports of injury to beans and peas in Caroline County.
- Virginia H. G. Walker (May 26): The seed corn maggot is moderately abundant at Norfolk.
- South Carolina A. Lutken (April 28): The seed corn maggot is very abundant on onions, peas, beans, and corn generally.
- THRIPS (Thysanoptera)
- South Carolina W. J. Reid, jr. (April 27): Thrips, probably Thrips tabaci Lind., are much more abundant than usual on spring cabbage plantings in the Charleston area. The insects are causing a whitening and wilting of the leaves. Since the cabbage crop was set in the field in late December and January the weather

has been abnormally warm and dry. (May 12): The principal truck crops grown during this season in the Charleston area --cabbage, cucumbers, potatoes and beans--are now being seriously damaged by the heaviest infestation that local growers remember of ever witnessing, certainly the worst in the section during the past six years. At present young cucumbers appear to be suffering most from the attack. The infestation is quite general over the entire section. As many as 35 thrips have been counted in the field of a microscope, five-eighths inches on the under side of a cucumber leaf. An average of 14 thrips was found on each of 100 similar sized areas on 100 cucumber leaves. Since May 1 the insects have spread to adjacent cucumber, bean, potato, and onion plantings. The following native plants in the vicinity of truck plantings were found to be infested: Goldenrod, milkweed, smartweed, pigweed, and Johnson grass. (May 13): Thrips were found to be moderately abundant on small plantings of cucumbers and melons in the central portion of the State. (May 14): They were proving quite destructive to onions in the northern or Piedmont area of the State. The infestation continued to be severe until May 20. During the 24-hour period from 8 a. m., May 20, to 8 a. m., May 21, a rainfall of 4.34 inches fell at Charleston. The infestation on 100 leaves after the rain was found to be 70.9 per cent less than the infestation count made during a period of 3 days before the rain.

W. A. Thomas (May 10): Thrips are causing severe injury to cabbage, cucumber, bean, Irish potato, and gladiolus in the vicinity of Charleston.

A CAMEL CRICKET (Dalmanella brevipes Hald.)

Oklahoma

C. F. Stiles (May 23): A cricket is doing serious damage to garden and truck crops at Hollis. (Det. A.N.Caudell)

COMMON RED SPIDER (Tetranychus telarius L.)

Virginia

H. G. Walker (May 26): The red spider is very abundant and has caused considerable damage to strawberries in the Norfolk district and on the Eastern Shore of Virginia.

Georgia

O. I. Snapp (May 2): The drought has been favorable for the red spider and they are unusually abundant in Fort Valley. A field of English garden peas has been ruined. (May 14): Red spiders have caused serious damage to beans in gardens at Fort Valley.

THE GREENHOUSE CENTIPEDE (Scutigera immaculata Newp.)

California

A. E. Michelbacher (May 19): This centipede continues to damage asparagus and is very destructive in greenhouses around East Oakland.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- Delaware L. A. Stearns (May 23): The Colorado potato beetle is very abundant--there have been many complaints during the past 10 days.
- Virginia L. R. Cagle (May 25): The Colorado potato beetle is very abundant at Roanoke.
- Pennsylvania C. A. Thomas (May 20): The Colorado potato beetle is becoming very common on potato leaves, which are now up several inches in Chester County.
- J. N. Knull (May 16): Plentiful on volunteer potatoes at Mont Alto.
- Maryland E. N. Cory (May 17): The Colorado potato beetle is very abundant.
- North Carolina L. W. Brannon (May 5): Adults and eggs were numerous on Irish potatoes in this section on May 5. No hatching to date.
- South Carolina A. Lutken (April 28): Eggs deposited at Clemson College April 27.
- Ohio T. H. Parks (May 26): Adults and eggs are more abundant than usual.
- Indiana J. J. Davis (May 26): Attacking potatoes at Indianapolis as soon as the plants appear above ground.
- Illinois J. H. Bigger (May): More than commonly abundant May 18 in western Illinois.
- South Dakota H. C. Severin (May 20): First beetles were seen May 19.
- Mississippi and Alabama K. L. Cockerhan (April 22): Doing considerable damage to the Irish potato crop at Biloxi, Miss., and Foley, Ala. In some small garden patches it has been necessary to treat the plants twice.
- Missouri L. Haseman (May 21): Larvae have been hatching and feeding actively for some time at Columbia. Numerous complaints have been received from throughout the State.
- Kansas H. B. Hungerford (May 8): Adults are seriously injuring potatoes at Lawrence.
- Oklahoma C. F. Stiles (May 23): Moderately abundant in central and eastern Oklahoma and scarce in the western section of the State.
- Colorado G. M. List (May 24): More numerous than usual over the eastern half of the State. Most of the early potatoes will need spraying.

Idaho

C. Wakeland (May 21): Eggs were found at Lewiston on May 11 when oviposition had just begun. At this date they are still in the egg stage and eggs are extremely abundant on all early potatoes.

POTATO FLEA BEETLE (Eotritix cucumeris Harr!)

Pennsylvania

H. E. Hodgkiss (May 27): The potato flea beetle has already injured large acreages of potatoes and it is working on newly set tomato plants.

POTATO TUBER WORM (Gnorimoschema operculella Zell.)

Utah

G. F. Knowlton (April 28): Dr. F. E. Stephens reports the occurrence of the potato tuber moth in one potato field at Beryl.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

New York

N. Y. State Coll. Agr., Weekly News Letter (May 23): Found first Mexican bean beetle May 17 in Ulster County.

Pennsylvania

J. N. Knull (May 16): The first adult was collected on a pine tree at Mont Alto on May 16.

Delaware

L. A. Stearns (May 23): The Mexican bean beetle is now appearing on bean--first complaint received May 18.

Virginia

L. W. Brannon (May 4): The first adult of the season was found feeding in the field at Norfolk on May 4. This is two days earlier than the first record of 1931.

H. G. Walker (May 26): The Mexican bean beetles are only moderately abundant this spring at Norfolk. Our hibernation records to date show that 30.07 per cent of the beetles have emerged from a cage located in a pine woods, 28.13 per cent from a cage located in a mixed oak and pine woods, and 12.47 per cent from a cage located in an oak woods. This is not so high an emergence as had occurred at this time last year.

North Carolina

T. A. Thomas (May 23): Adults are very abundant on string and lima beans at Chadbourn, where considerable damage is being done. No eggs have yet been observed.

South Carolina

A. Lutken (May 26): Adults and eggs taken in Anderson May 11; scarce.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

- Virginia L. W. Brannon (April 29): The first beetle of the season was found feeding at Norfolk on snap beans on April 29.
- North Carolina and South Carolina W. A. Thomas (May 7): Unusually abundant during the past few weeks, causing rather severe damage to young beans and cowpeas. The injury seems to be more widespread than usual and it has become necessary to resort to control measures in the trucking areas of the Carolinas.
- Illinois W. P. Flint (May 20): Mr. Chandler reports moderate injury, with probability of more severe injury later.
- Tennessee J. U. Gilmore (May 25): Nearly all plantings of early snap beans have been severely attacked at Clarksville.
- Arkansas D. Isely (May 21): Very abundant in Crawford, Washington, and Benton Counties.
- Alabama J. M. Robinson (May 20): Abundant at Vernon, Auburn, River-view, and Flat Creek.
- Mississippi C. Lyle and assistants (May): The bean leaf beetle has attracted more attention in Mississippi during the month than any other insect. Complaints have been received from all sections of the State. (Abstract, J.A.H.)

A THRIPS (Frankliniella tritici Fitch)

- Florida J. R. Watson (April 27): Injuring bean blossoms in the Everglades and north to Ocala.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

- Illinois C. C. Compton (May): Moderately abundant at Blue Island, Cook County. Beginning oviposition.
- Kentucky W. A. Price (April): Butterflies were observed on April 7 at Lexington.
- South Carolina H. C. Severin (May 20): Numerous butterflies were seen on May 10.
- Minnesota A. G. Ruggles and assistants (May 13): The imported cabbage worm is very abundant in Lyon County.

Missouri L. Haseman (May 21): Imported cabbage worms have been doing much damage on early cabbage.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Virginia W. G. and L. D. Anderson (May 26): The hymenopterous parasite Angitia hellulae Vier. (det. R. A. Cushman) has been very effective in controlling this insect. About 90 full-grown diamond-back larvae and pupae were collected in the field on April 6 and 8; over 95 per cent of these were parasitized. One hyperparasite Callitula sp. (det. C. F. W. Muesebeck) was also reared from this material at Norfolk.

Colorado G. M. List (May 24): The diamond-back moth was found very numerous on stocks in a greenhouse at Sterling May 1. Serious damage was being done to this planting.

Utah G. F. Knowlton (May 2): Diamond-back moths are abundant upon mustard in several parts of Box Elder and Tooele Counties.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia L. W. Brannon (May 5): Adults were fairly numerous on scattered seed kale plants on April 28 at Norfolk. Several egg masses were seen. An egg mass which was collected on April 14 hatched in the insectary on the 25th.

Maryland E. N. Cory (May 13): More numerous than last year in Talbot Kent, Baltimore, and Prince Georges Counties.

North Carolina W. A. Thomas (May 23): We are now witnessing a very definite demarcation of broods of this insect at Chadbourn. Ordinarily there is no apparent distinction between broods, both adults and nymphs being present at the same time.

Ten days ago adults were very numerous with practically no nymphs. Today the reverse is true. Few adults can be seen, while thousands of nymphs are observed on the plants, with hatching still in progress. On some plants these nymphs are so abundant as almost completely to cover the foliage and stems.

Georgia J. B. Gill (May 26): They have been abundant all the spring on cabbage and collards at Albany.

Missouri L. Haseman (May 21): The harlequin cabbage bug is reported as abundant on cabbage, radish, and related crops all over the State; it was laying eggs May 20.

Mississippi C. Lyle and assistants (May): This insect is quite generally abundant and in many cases doing injury to various crucifers. (Abstract, J.A.H.)

Texas S. W. Clark (April 25): Generally distributed throughout the whole Rio Grande Valley. Late cabbage is apparently not badly affected.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Connecticut R. B. Friend (May 23): At Mt. Carmel, Hamden, the oviposition was about a week later than normal and the infestation appears light.

New York N. Y. State Coll. Agr., Weekly News Letter (May): Cabbage maggots appeared during the third week in May in western New York, where they were laying eggs on early-set plants.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia H. G. Walker (May 26): The cabbage aphid has been abundant enough to cause some damage to the seed kale at Norfolk.

North Carolina W. A. Thomas (May 17): This insect seems to be on the increase, developing a rather heavy infestation on many of the small home garden plots of cabbage and collards. Parasitism is developing somewhat rapidly.

Indiana J. J. Davis (May 26): The cabbage aphid was abundant and destructive to cabbage at Liberty, May 21, the plants having been received from the South. Indiana growers have been having much trouble with insect-infested cabbage and tomato plants received from Southern sections for several years. A system of careful insecticide treatment and inspection is essential if Southern growers anticipate a continued northern market for their plants.

Ohio T. H. Parks (May 26): These aphids are becoming abundant on young cabbage plants in Franklin County.

Missouri L. Haseman (May 21): The cabbage aphid was serious on cabbage and radishes over the State May 10 to 15.

F. D. Butcher (May 10-17): Very generally present on cruciferous plants in St. Louis, Perry, Carter, Butler, and Ripley Counties. Hymenopterous parasites in a few gardens had materially reduced the infestations. Ladybird beetles were fairly common.

CABBAGE CURCULIO (Ceutorhynchus rapae Gyll.)

Indiana J. J. Davis (May 26): The cabbage curculio was reported destructive to hot-bed cabbage at Connersville (May 23) and Ke-wanna (May 24):

Missouri L. Haseman (May 21): The cabbage curculio was reported serious at St. Louis and St. Joseph May 10 to 15.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

- Massachusetts A. I. Bourne (May 24): Asparagus beetles appeared for the first time at Amherst on May 14, and on the 16th were observed for the first time by Professor Whitcomb at Waltham. The first asparagus beetles to appear were C. asparagi, the spotted species C. duodecimpunctata L. appearing some days later.
- Delaware L. A. Stearns (May 23): Asparagus beetles were unusually abundant and destructive throughout the State.
- New York N. Y. State Coll. Agr. (May 23): Asparagus beetles caused considerable damage during the hot weather by eating the tender tips in Chautauqua County. Little egg-laying has taken place.
- Pennsylvania C. A. Thomas (May 20): The common asparagus beetle has been abundant and destructive in some asparagus fields in southeastern Pennsylvania during the month. They have caused considerable damage by distorting a large proportion of asparagus stalks. Only occasionally were specimens of the 12-spotted asparagus beetle noticed.
- Virginia L. W. Brannon (April 27): The first adult of the season was found feeding in the field on April 27.
- Maryland E. N. Cory (May 13): Reported attacking asparagus in Baltimore and Anne Arundel Counties.
- Illinois J. H. Bigger (May): First appearance this year at Jacksonville, April 30.
- C. C. Compton (May 20): The common asparagus beetle is very abundant at Des Plaines and Blue Island. More than 50 per cent of the tips were badly damaged in several fields.
- Iowa H. E. Jaques (May 27): The common asparagus beetle which apparently made its first appearance here two years ago is now becoming quite abundant and may be found in numbers wherever asparagus is to be seen.
- California A. E. Michelbacher (May 19): Generally spread throughout the Sacramento River Delta. At the season progresses it will probably become injurious in places.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Virginia H. G. Walker (May 26): The striped and spotted cucumber beetles are much more abundant now than at this time last year, the striped cucumber beetle being especially abundant.

These beetles caused considerable damage in some fields before the growers noted their presence.

L. R. Cagle (May 25): The striped cucumber beetle is very abundant at Roanoke.

- Ohio T. H. Parks (May 24): The striped cucumber beetle was noticed moving out of hibernation in fallen leaves of a wood lot on May 7. It was taken in a light trap the week of May 16.
- Oklahoma C. F. Stiles (May 23): The striped cucumber beetle is apparent in large numbers in central and eastern Oklahoma; some of the growers have replanted their fields three times.
- Illinois C. C. Compton (May): Striped cucumber beetles are scarce on melons just planted at Des Plaines, Cook County.
- Delaware L. A. Stearns (May 23): The striped cucumber beetle is generally abundant.
- Missouri L. Haseman (May 21): Several growers have already reported trouble.
- South Dakota H. C. Severin (May 20): Striped cucumber beetles were present in southern South Dakota May 15.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

- Virginia H. G. Walker (May 26): More abundant this spring than they were last spring, at Norfolk.
- Maryland E. N. Cory (May 13): A. tristis reported general.
- Illinois C. C. Compton (May 20): Hibernating bugs are very abundant. They are just leaving hibernating quarters in northern Illinois.
- Utah G. F. Knowlton (May 18): Squash bugs are abundant at Bauer, Tooele County, and in many parts of Utah County.
- Oklahoma C. F. Stiles (May 23): Appearing in large numbers in Okmulgee County.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

- South Carolina A. Lutken (April 28): The onion thrips is very abundant and causing noticeable damage to onions in the area near Clemson College.

Mississippi J. P. Kislanko (May): The onion thrips caused severe injury to onion plants in Wiggins. On May 9 onion foliage had the appearance of having been burned. Upon closer examination a heavy infestation of thrips was noticed.

A CAPSID (Orthotylus translucens Tuck.)

Illinois J. H. Bigger (May 18): Onion capsids are destroying many onion patches in home gardens in Greene and Morgan Counties.

SWEET CORN

BEE T ARMYWORM (Laphygma exigua Hbn.)

California R. E. Cambell (April 15): Young sweet corn about 1 foot high is being attacked by larvae in Los Angeles County. Infestation is scattering and the corn is outgrowing the damage.

STRAWBERRY

STRAWBERRY WEEVIL (Anthonomus signatus Say)

New York N. Y. State Coll. Agr., Weekly News Letter (May 23): Strawberry weevil injury was observed May 20 in Dutchess County.

North Carolina W. A. Thomas (May 18): The new generation of strawberry weevils began emerging in considerable numbers today. The overwintering generation is dying off rapidly.

C. H. Brannon (April 30): Dewberries in Cumberland County are being very severely injured by attacks of the strawberry weevil.

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

North Carolina W. A. Thomas (May 6): In examining strawberry plants set after a crop of cowpeas last summer, it was observed that the adult cowpea pod weevil occasionally was found feeding on ripe fruit. No volunteer cowpeas or other normal food plants were available at the time at Chadbourn.

A ROOT WEEVIL (Dyslobus sp.)

Oregon D. C. Mote (April 21): Dyslobus weevils were found feeding on and defoliating gooseberry shoots, near Dallas, on March 23, (D. C. M.) Dyslobus weevils were laying eggs in field April 14 (K. W. Gray).

STRAWBERRY LEAF ROLLER (Ancylis comtana Froel.)

- Indiana J. J. Davis (May 26): Reported abundant at Elkhart, May 24.
- Michigan R. Hutson (May 9): Plentiful on strawberries in Berrien County.
- Missouri L. Haseman (May 21): Serious in southwestern Missouri. Larvae nearing maturity May 15.

STRAWBERRY CROWN MOTH (Aegeria rutilans Hy. Edw.†)

- Washington R. L. Webster (April 27): A strawberry field on the college ground at Pullman has been ruined by this borer.

FLOWER THRIPS (Frankliniella tritici Fitch)

- Louisiana C. O. Hopkins and N. Allen (May 5): Present in all fields visited in the strawberry growing district of Tangipahoa Parish and seriously injuring the strawberry flowers. From 20 to 75 per cent of the blooms were being destroyed by this pest. Mr. O. G. Price, County Agent, on May 5 wrote: "This thrips is causing about 20 per cent reduction of berries in fields in St. Tammany Parish." This thrips has been unusually abundant on various flowers in the vicinity of Baton Rouge during the present season.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

- Utah G. F. Knowlton (May 18): Beet leafhoppers are present in many parts of northern Utah.
- California A. E. Michelbacher (May 19): In the area around Clarksburg some curly top of sugar beets has been noted. The number of infested beets in this area at the present time is less than 1 per cent. To date I have not observed any leafhoppers, although diseased beets would indicate that they have been in the area a month or more.

BEET WEBWORM (Loxostege sticticalis L.)

- North Dakota J. A. Munro (May 23): Adults of the sugar beet webworm have been abundant of late in the vicinity of Fargo. County agents and farmers of Ward, Williams, Divide, Hettinger, and McKenzie Counties report that the overwintering larvae have been observed unusually abundant in recently plowed fields.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

- North Carolina C. H. Brannon (April 30): Damage to tobacco beds is the worst in years all over the State.
- Ohio T. H. Parks (May 24): Flea beetles were very injurious to tobacco plants in seed beds in Lawrence County early in May.
- Kentucky T. A. Price (April 23): The tobacco flea beetle has been very troublesome in tobacco beds generally over the State.
- Tennessee J. U. Gilmore and J. Milam (May 25): Practically all fields at Clarksville this season have suffered severely from flea beetle attacks.

TOBACCO THRIPS (Frankliniella fusca Hinds)

- Florida F. S. Chamberlin (May 10): Very abundant and severe damage will result if rains do not occur in the near future.

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

PERIODICAL CICADA (Magicicada septendecim L.)

- Pennsylvania S. W. Frost (May 25): This morning I found four newly emerged cicadas. Apparently they are quite numerous, as these were found by chance in doing other work in the orchard. The specimens I observed occurred in the northern end of Adams County.
- Maryland P. Oman (May): Found at Hyattsville (Fly Avenue); and in Washington, D. C. (35th & Van Ness, N. W.).
- J. A. Hyslop (May 22): Two newly formed pupal skins were found on a tree on my farm at Avanel today. (May 27): Several hundred pupal skins were collected from a few trees.
- F. H. Berger (May 23): Pupae have been crawling out and adults emerging since Friday, May 20, at Hyattsville.
- Virginia W. S. Fisher (May): Found at Falls Church.
- South Carolina A. Lutken (May 14): The periodical cicadas are emerging in large numbers over an area extending at least a mile north of the point where we made the collection, Walhalla and Issaquena Falls.

CANKER WORMS (Geometridae)

Wisconsin

E. L. Chambers (May 25): Eighty acres of maple and hardwoods were defoliated nearly 50 per cent and many orchards seriously damaged in unsprayed section of the State by Paleacrita vernata Peck.

Kansas

H. B. Hungerford (May 8): Both the fall canker worm (Alsophila pomataria Harr.) and the spring canker worm P. vernata) were seriously abundant at Lawrence and at Ottawa.

A TORTRICID (Homona fervidana Walk.)

Arkansas

W. J. Baerg (May 23): Caterpillars have been exceedingly numerous over a small area at Combs. Many bushes were totally covered with webs, April 24.

ASH

ASH BORER (Podosesia fraxini Lugger)

Indiana

J. J. Davis (May 26): The ash borer was reported very abundant at Anderson on 6-inch ash trees, the adults issuing May 21. Also at Muncie May 23.

North Dakota

J. A. Munro (May 23): Word from Garrison, McLean County, indicates that the ash tree borer is quite troublesome to ash plantings there.

ASH SAWFLY (Tomostethus multicinctus Roh.)

District
of
Columbia

G. Myers (May 17): Larvae from one-half to full-grown are very abundant on ash trees along Seventh Street, south of Constitution Avenue, Washington.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

New England

E. P. Felt (May 24): Found in great numbers in attics in a number of southern New England localities.

Connecticut

W. E. Britton (May 20): Beetles very abundant, emerging from hibernating quarters.

New Hampshire

J. G. Conklin (May 24): Feeding of overwintering beetles was observed in towns of Stratham and Newfields May 17.

Rhode Island

A. E. Stene (May 25): Adults are showing up in fairly large numbers in many sections of the State.

LEOPARD MOTH (Zeuzera pyrina L.)

Massachusetts E. P. Felt (May 24): Leopard moths are very abundant in many of the old elms on Nantucket Island.

FIR

AN APHID (Dreyfusia picea Ratz)

Maine H. B. Peirson (May): Infestation by the fir bark louse was quite general along the coast May 19.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

New England E. P. Felt (May 24): The larch case bearer is prevalent in southern New England with a prospect of somewhat severe injury.

Maine H. B. Peirson (May 19): Very heavy outbreaks of the larch case bearer in the vicinity of Augusta.

New Hampshire J. G. Conklin (May 24): Judging from the large numbers of hibernating larvae of the larch case bearer observed in different parts of the State this spring, larch will suffer rather severe defoliation by this pest during the present year.

Vermont H. L. Bailey (May 24): The larch case bearer has caused much damage to larch during the past five years and has started work in large numbers again this spring.

Pennsylvania J. N. Knull (May 24): The larch case bearer was found doing considerable damage to European larch in Franklin County.

Michigan R. Hutson (May 24): This insect is abundant on small areas of tamarack in Cass County.

WOOLLY LARCH APHID (Chermes strobilobius Kalt.)

Pennsylvania J. N. Knull (May 24): Many European larches in a plantation at Pond Bank, Franklin County, are infested.

MAPLE

SUGAR-MAPLE BORER (Glycobius speciosus Say)

Pennsylvania J. N. Knull (May 12): Many sugar maple trees in the vicinity of Marklesburg are infested. Undoubtedly the 1930-31 drought aided these insects in establishing themselves in

in fast-growing trees. Some trees have been killed and many are dying.

MAPLE BLADDER GALL (Phyllocotes quadripes Shim.)

New York E. P. Felt (May 24): Extremely numerous on a red maple at Newburgh, the infested leaves being practically covered with galls.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana J. J. Davis (May 25): The cottony maple scale is abundant on soft maple at Lizton and Portland.

Ohio T. H. Parks (May 24): Very serious on soft maples in western Ohio.

OAK

AN APHID (Myzocallis discolor Monell)

District of Columbia J. A. Hyslop (May 20): Unusually abundant on oak leaves on Museum grounds--some coccinellid larvae seen among them.

PINE

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Maine H. B. Peirson (May): The first white pine weevil adults appeared April 20 at Parsonfield. Abundant on Scotch pine in Belfast and New Portland.

Pennsylvania J. N. Knull (May 4): The first adults were observed on May 4, crawling up the trunks of white pines in the vicinity of Cross Forks.

BARK BEETLES (Coleoptera)

Pennsylvania J. N. Knull (May 13): Many pines (Pinus banksiana) in a 15-year-old plantation at Pond Bank, Franklin County, were killed by Ips calligraphus Germ., I. grandicollis Eich., I. avulsus Eich., I. pini Say. The trees were infested during 1931 and their vitality was evidently lowered by the 1930-31 drought.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Comst.)

Massachusetts E. P. Felt (May 24): The Nantucket pine moth is locally very abundant on hard pines on Nantucket Island, adults beginning to issue the middle of May.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Connecticut

R. B. Friend (May 23): There appears to have been a decided winter mortality, although comparative figures are lacking ~~for~~ previous years. The larvae are in the last instar and a few individuals have pupated. Scouting this spring revealed a light scattered infestation in the eastern part of the State

PINE TUBE MOTH (Eulia pinatubana Kearf.)

New York

H. B. Peirson (May): Adults of the pine tube moth emerged April 18 at Ithaca.

A MOTH BORER (Parharmonia pini Kellicott)

New York

E. P. Felt (May 24): The pitch mass borer was unusually prevalent in a grove of white pines at Bedford Hills.

A SAWFLY (Neodiprion edwardsii Nort.)

Maine

H. B. Peirson (May): The pine sawfly was feeding on red pine in Lincoln, September, 1931. First record in State.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Mississippi

J. P. Kislanko (May 9): Several colonies were observed feeding on the needles of slash pine saplings in the vicinity of Wiggins and Perkinston, causing heavy defoliation.

PITCH MIDGE (Retinodiplosis resinicola O.S.)

Massachusetts

E. P. Felt (May 24): The pitch midge is reported as prevalent on hard pine at Osterville by Mr. W. Wheeler, Jr.

SPRUCE

SPRUCE LEAF MINER (Argyroploce abietana Fern.)

New England

E. P. Felt (May 24): The spruce leaf miner is locally somewhat abundant upon Norway and Colorado blue spruce in southern New England.

Michigan

E. I. McDaniel (May 24): This is quite common throughout southern Michigan. This particular infestation is in the State forest at Alpena.

AN APHID. (Chermes abietis L.).

Michigan

E. I. McDaniel (April 30): Complaints have also been received from Menominee of Adelges abietis attacking spruce.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

New England

E. P. Felt (May 24): Generally prevalent in southern and southeastern New England and southeastern New York. A specimen recently brought in shows such a generally webbed condition that the basal half or two-thirds of all the older needles and some of the younger needles are distinctly shrouded with the delicate webs of this pest.

SPRUCE BUD SCALE (Physokermes piceae Schr.)

Maine

H. B. Peirson (May): The spruce bud scale was abundant on dwarf Alberta spruce April 22 in Bar Harbor.

WILLOW

A LACEBUG (Corythucha salicata Gibson)

Oregon

D. C. Mote (April 21): The western willow tingid is quite serious in certain orchards in the Willamette Valley.
(B. G. Thompson)

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

GREENHOUSE LEAF TIER (Phlyctaenia rubigalis Guen.)

- New York C. R. Crosby (April 29): Caused considerable damage to chrysanthemums, snapdragons, and cinerarias in a greenhouse.
- Pennsylvania C. A. Thomas (May 20): This insect has done some damage to snapdragons, etc., in a greenhouse in southeastern Pennsylvania.
- Ohio E. W. Mendenhall (May 10): Quite destructive on the strawberry geranium (Saxafraga sarmentosa) and the Michaelmas daisies in the greenhouses in Springfield. It is destructive to a long list of plants in the greenhouse.

HORNWORMS (Sphingidae)

- Georgia O. I. Snapp (May 25): A very heavy infestation of hornworms has developed in an ornamental nursery near Fort Valley, causing defoliation of many plants.
- Michigan E. I. McDaniel (April 28): Severe losses have been suffered this season by greenhouse men who grow Easter lilies. Infested plants are stunted, the lower leaves turn yellow and the plants often fail to flower. The roots of such plants always show the bulb to be badly rotted and mites extending their activities into healthy tissue. Frequently stems are also infested.

GREEN PEACH APHID (Myzus persicae Sulz.)

- Mississippi J. P. Kislanko (May): Cineraria, weeping lanterna, and some other plants were very heavily infested with the green peach aphid in the greenhouses in Hattiesburg.

TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

- Utah G. F. Knowlton (May 7): Adults are very abundant on matrimony vine at Plain City. Apparently the first generation has largely matured before many potatoes are planted.

JAPANESE MAPLE SCALE (Leucaspis japonica Ckll.)

- Connecticut W. E. Britton (May 20): This scale has severely injured Japanese maple and flowering dogwood.

THRIPS (Thysanoptera)

- South Carolina W. J. Reid, jr. (April 27): Young azalea plants in the greenhouse of a nursery in Charleston are being seriously injured by

thrips. The infestation is the first of its kind that has come to the attention of the nurseryman.

Mississippi

W. E. Hinds (May 26): The greenhouse thrips (Heliothrips haemorrhoidalis Bouche) developed very abundantly out of doors through the mild winter and has seriously injured the foliage of Viburnums grown as shrubbery.

Mississippi

C. Lyle and assistants (May): An undetermined species of thrips is seriously damaging rose blossoms throughout the State. (Abstract, J.A.H.)

CAROLINA MANTIS (Stagmomantis carolina Johan.)

Maryland

E. N. Cory (May 13): Egg masses of this insect have been sent in from practically all over the State.

A GARDEN SLUG (Limax maximus L.)

Ohio

E. W. Mendenhall (May 24): Garden slugs are doing considerable damage to iris in gardens in Columbus. They damage the iris by eating holes in the leaves.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Connecticut

W. E. Britton (May 20): Considerable injury has been caused on young trees in a Branford nursery by this leaf miner.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Labou.)

Rhode Island

A. E. Stene (May 25): A small box plant having an unusually heavy infestation was brought into the office a week ago and in about three days a large number of the midges emerged.

Delaware

L. A. Stearns (May 23): First emergence of the box leaf miner was observed May 13 in Wilmington.

Georgia

T. O'Neill (May 20): First record of occurrence in this State. Determined from leaf galls, one full grown larva, and numerous eggs.

CAMELLIA

CAMELLIA SCALE (Lepidosaphes camelliae Hoke)

Georgia

O. I. Snapp (May 4): Unusually abundant on Camellia japonica bushes in Fort Valley.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Ohio E. W. Mendenhall (May 25): The chrysanthemum midge has been held down pretty well in the greenhouses at Springfield but began to show some increase this spring.

GLADIOLI

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Connecticut B. H. Walden (April and May): Many of the small growers who did not treat the corms during the winter are finding them infested this spring.

California W. G. Weigle (April 30): I collected specimens of the gladiolus thrips on gladiolus in Los Angeles County April 30. (Det. by H. Morrison.)

GRAPE MEALYBUG (Pseudococcus maritimus Thrh.)

Michigan E. I. McDaniel (April 30): P. maritimus are common on "glad" corms stored in warm quarters at East Lansing.

HOLLY

HOLLY LEAF MINER (Phytomyza ilicis Curt.)

Maryland E. N. Cory (May 13): Found in Prince Georges County.

IRIS

IRIS BORER (Macronoctua onusta Grote)

North Dakota J. A. Munro (May 23): Specimens from Oliver County were sent in and were reported to have practically destroyed a fair sized planting of iris.

LARKSPUR

AN APHID (Aphis rociadae Chll.)

Mississippi J. P. Kislanko (May 5): An unusually heavy infestation on larkspur was observed in Hattiesburg.

CYCLAMEN MITE (Tarsonemus pallidus Bts.)

Wisconsin E. L. Chambers (May 25): Delphiniums in several gardens near Milwaukee have been seriously injured by cyclamen mite.

PALM

A WEEVIL (Rhyssalus cruentatus Fab.)

orida

E. W. Berger & G. B. Merrill (May 24): Palm weevil moderately abundant at Delray on Phoenix canariensis. Reported by J. C. Goodwin.

ROYAL PALM BUG (Xylastodoris luteolus Barber)

orida

E. W. Berger & G. B. Merrill (May 24): Royal palm bug very abundant at Miami on royal palms. Reported by J. C. Goodwin.

RHODODENDRON

AN AMBROSIA BEETLE (Corthylus punctatissimus Zimm.)

England
and
New York

E. P. Felt (May 24): The pitted ambrosia beetle has been reported from several southern New England localities, and on Long Island, N.Y., it is stated that a group of 300 rhododendrons shows practically every stem infested. In some cases the infestation is so severe that the stems will have to be removed.

RHODODENDRON LACEBUG (Stephanitis rhododendri Horv.)

ryland

E. N. Cory (March 17): The rhododendron lacebug has been reported at Baltimore.

ROSE

A EUCOSMID (Argyroplote nimbatana Clem.)

ssissippi

C. Lyle (May 21): Specimens of the rose budworm were received from Grenada on May 5.

ROSE APHID (Macrosiphum rosae L.)

lifornia

E. O. Essig (May 20): The rose aphid has been very abundant and destructive in the San Francisco Bay Region, in May.

SNOWBALL

SNOWBALL APHID (Aphis viburnicola Gill.)

diana

J. J. Davis (May 26): The snowball aphid has been as abundant as usual at Knightstown and Lafayette, and probably elsewhere the past month.

Utah G. F. Knowlton (May 18): Aphids are affecting snowballs at Oak Creek.

SPIRAEA

GREEN CITRUS APHID (Aphis spiraeicola Patch)

Indiana J. J. Davis (May 26): The spiraea aphid has been very abundant at Knightstown and Lafayette and probably elsewhere the past month.

Mississippi K. L. Cockerham (April 23): An unusually heavy infestation of aphids was noted on spiraea shrubs in a yard at Biloxi, Miss. on April 23. Pyracanthas nearby were also infested. It was probably the same aphid which had spread over to these other shrubs.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Connecticut W. E. Britton (May 20): There has been severe injury to Taxus plants in nurseries and ornamental plantings by grubs eating the roots, in New Haven, Milford, and Waterbury.

TRITONIA

A THrips (Eregmatothrips iridis Watson)

New York F. F. Smith (October 28, 1931): Collected on hardy Tritonia at Hamburg, October 28, 1931. First record in U. S. (Det. H. Morrison.)

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

MOSQUITOES (Culicinae)

Connecticut N. Turner (May 16): In Saybrook in one pool Aedes cantator Coq. was unusually abundant; also found in Milford, Stratford, East Haven, Madison, and New Haven. (May 20): A. canadensis Theob. bred slightly later than usual this year, emergence being in progress now. Collected from Orange and Bridgeport.

Delaware L. A. Stearns (May 23): A State-wide mosquito survey is in progress. First-brood of A. cantator took wing on salt marshes along the Delaware River and Bay during the last week in April. Trap collections for the first ten days in May for 16 communities

in the State show 84 per cent A. cantator and A. sollicitans Walk. and 16 per cent A. sylvestris and A. canadensis Theob.

G. F. Knowlton (May 21): Mosquitoes are very abundant in parts of Box Elder and Tooele Counties, being especially annoying in the vicinities of Corinne, Lamp, Penrose, Brigham City, Thatcher, Bothwell, and northern Skull Valley.

EYE GNATS (Hippelates pusio Mall.)

W. E. Dove & J. B. Hull (April 14): Eye gnats and conjunctivitis have been important along the shores of Lake Okechobee, according to Dr. Henry Hanson, State Health Officer.

J. B. Hull (May 19): At Pahookkee, in company with Mr. Broughman, of the State Board of Health, eleven grams of gnats were collected in one trap during a period of 24 hours.

A MIDGE FLY (Chironomidae)

R. Bogue (May 9): A great deal of sickness in Santa Paula and Ventura was attributed this month to a species of midge getting into the water supply and wells. Approximately four hundred (400) cases have been reported so far.

SAND FLIES (Culicoides)

W. E. Dove and D. C. Hall (April 14): Since March sand flies have been annoying in the vicinity of their breeding places. During the past two weeks they were present in and about residences in the vicinity of Charleston. Poorly constructed ditches serve as concentration places for larvae during dry seasons.

J. B. Hull (April 14): Adults have been present in the vicinity of Fort Pierce since January 10. Emergence apparently takes place throughout the winter. The drainage ditches holding muck and decaying vegetation where there is no tidal action are serving for concentrations of larvae.

BLACK WIDOW (Lathrodectes mactans Fab.)

P. Knight (May 25): Yesterday I went out in the fields and succeeded in collecting two females. During January, February, March, and April 33 of these spiders were collected.

R. Bogue (May 9): The black widow spider is very plentiful this year and many egg cases are being found.

CATTLE

COMMON CATTLE GRUB (Hypoderma lineatum DeVill.)

Michigan

E. I. McDaniel (May 25): The first appearance of adult flies for this year in Michigan was May 8. In some sections the grubs are very plentiful in the backs of cattle. H. lineatum is our common species, although we find H. bovis DeG. occasionally.

STABLE FLIES (Stomoxys calcitrans L.)

South Carolina

W. E. Dove and D. G. Hall (April 14): Stable flies annoyed live stock and dogs on the coast near Charleston during the past week. They were most abundant about stables near the salt marshes.

Missouri

L. Haseman (May 21): Stable flies are increasing rapidly at Columbia.

HORN FLY (Haematobia irritans L.)

Louisiana

F. C. Bishopp (May 28): The horn fly has been reported as unusually abundant at Laurel Hill. The correspondent states that they are more abundant than he has ever seen them; and that they have been since April 1st.

HORSE

SOUTHERN BUFFALO GNAT (Eusimulium pecuarum Riley)

United States

G. H. Bradley (May): The southern buffalo gnat appeared much earlier than usual in the gnat-infested territory this year. A few individuals were reported as seen about the middle of December, 1931. They were abundant about the middle of January and were definitely on the decline by the end of March. These pests were present in annoying numbers in Mississippi. They do not fly far into the hill country east of the Delta except along low river bottoms. In Arkansas there were records of their presence from many points. In Louisiana they were reported at Monroe and as fairly well distributed throughout Ouachita Parish, the eastern section of Richland and in several sections of Caldwell Parish, also at Winnfield and Natchitoches. They were also reported as present at Covington, Tennessee. This year the gnats appeared in gradually increasing numbers and as is usual under such conditions only isolated cases of their killing stock were reported.

POULTRY

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

North Carolina W. E. Dove, D. G. Hall, and F. M. Prince (April 14): Stick-tight fleas have been observed at four different localities in the vicinity of Charleston during the past few weeks. One severe infestation was found on poultry. At other places dogs were infested.

PIGEON FLY (Pseudolynchia maura Bigot)

Florida J. B. Hull (March 20): Pigeons were infested with pigeon flies in the vicinity of Fort Pierce. Quantities of pupae were obtained during late February and March.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

General T. E. Snyder (April): During the month of April 256 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, 5; Middle Atlantic, 90; South Atlantic, 55; East Central, 33; West Central, 20; Lower Mississippi 46; Pacific Coast, 7.

Indiana J. J. Davis (May 26): Termites were reported destructive in 18 localities.

Illinois W. P. Flint (May 20): More inquiries concerning these insects have been received during the last month than at any similar period. More than 80 inquiries concerning this insect have come in the last three weeks.

Kentucky W. A. Price (April): During the past month we have had 48 inquiries regarding the treatment for termites. These requests have come from all sections of the State.

Missouri L. Haseman (May 21): We have received numerous complaints on termites. Swarming was mostly completed by early May.

Alabama J. M. Robinson (May 20): Termites reported abundant from 8 places.

Texas F. L. Thomas (May): Termites reported swarming from garage at College Station and a home in Brazos County April 24. Termites reported in house at Port Arthur on April 11 and at Carthage May 19.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Maryland

E. N. Cory (May 13): The Argentine ant successfully overwintered outside of greenhouses in Baltimore. The nests were located in trees, principally cherry, walnut, and horse chestnut, and the brick bases of large plant vases in three localities, and in the base of an iron vase in two locations. Ants were noted to forage at temperatures as low as 36° F. at various times during the winter.

EUROPEAN EARWIG (Forficula auricularia L.)

Idaho

C. Wakeland (May 21): The European earwig is quite abundant in some houses in Moscow and has been reported from Coeur d'Alene

California

E. O. Essig (May 3): The European earwig reported in gardens and house at Melrose, East Oakland. First record for this locality.

PEA WEEVIL (Bruchus pisorum L.)

Michigan

E. I. McDaniel (April 28): The pea weevil has not been of economic importance in Michigan for a number of years. Recently we have been receiving specimens - mostly from small gardeners in seeds held over for planting.

Idaho

C. Wakeland (May 21): The pea weevil in the northern Idaho area is found in small numbers in the blossoms of volunteer peas but no eggs have yet been deposited. Planted peas are very late and will not be in the blossom stage for a period of weeks yet.

Oregon

D. C. Mote (April 21): Pea weevil adults were found in a field April 15. (A.O.Larson.)

WHITE-MARKED SPIDER BEETLE (Ptinus fur L.)

Minnesota

H. H. Shepard (May 11): Serious infestation at Duluth in dock through which flour is being moved.

INSECT CONDITIONS IN PUERTO RICO DURING APRIL AND MAY, 1932

M. D. Leonard

Insular Experiment Station, Rio Piedras, Puerto Rico.

The scarabaeid beetle Dyscinetus barbatus Fab. was abundant during early May this year and last year, at Isabela. (G.N. Wolcott.)

The first adult Lachnosterna vandinei Smyth was observed this year on March 10, the second on April 10, and they were abundant during late April. Last year the first adult was observed on April 19 and they were abundant last year in April, at Isabela. (G.N. Wolcott.)

The first adult Lachnosterna citri Smyth was observed this year on April 15 and they were abundant on April 17; last year the first adult was observed on April 17 and they were abundant on the 18th and 19th, at Isabela. (G.N. Wolcott.)

The period of greatest abundance of the large weevil (vaquita) Diaprepes abbreviatus L. as adult is also during the latter part of April, following a period of several months when rarely can an individual be found. During the rest of the year the beetles are present in reasonable numbers, with minor variations, but during the first quarter of the year adults are very scarce. Their appearance in the latter part of April coincides with the new flush of growth on citrus and other trees, caused by spring rains, which have been normal this year. Even for this irrigation district, however, one can hardly consider the almost 10 inches of rainfall that have fallen in the last 48 hours as being quite normal.

A pentatomid bug, Fecelia minor Voll. (H.G. Barber det.), was found in small numbers (adults) on the fruit in an orange grove near Ponce and in two groves near Penuelas on January 25. (R.G. Oakley.)

A pupa of an encyrtid, Leptomastix dactylopii How. (C.F.W. Muesebeck det.) was found in a guava fruit infested with larvae of Anastrepha sp. (C.G. Anderson.)

The scale Pseudoparlatoria ostreata Ckll. was heavily infesting fruits and stems of a papaya tree in a garden in San Juan, January 13. (A.S. Mills; Morrison det.)

The tessellated scale, Dacalymnatus tessellatus Sign., was moderately infesting the leaves of 4 Malay apple trees near Rio Piedras, January 1 (C.G. Anderson; G.B. Merrill det.), and a light infestation on the leaves of one tree of Calophyllum antillanum and a heavy one on a palm in Pennock's nursery near Rio Piedras, February 17 (C.G. Anderson). Listed from Puerto Rico in Florida State Plant Bd. Quart. Bul. 7(4): 260-261, 1923.

There was a light infestation of a bean pod-borer, Maruca testulalis Geyer, in a hamper of lima beans from Cayey for shipment, March 24 (C.G. Anderson; C. Heinrich det.), and one pod infested in a hamper of lima beans

from Isabela, March 16 (C.G. Anderson; C. Heinrich det.). Also, 11 per cent of the lima bean pods were infested on a 3-acre planting at Cidra on February 26. (A.S. Mills; Wm. Schaus det.) An adult of Microbracon tauteriphagae Mues. was reared from a larva found on a larva of Maruca testulalis Geyer in a hamper of lima bean pods from Vega Baja, March 24. (C.G. Anderson; C.F.W. Muesebeck det.)

A dipterous leaf miner, Agromyza inaequalis Mall., was infesting with blotch mines practically all the leaves in a small garden patch of lima beans at the Forestry Station at Rio Piedras, January 15. (R. Faxon; C.T. Greene det.)

An aphid, Megoura viciae Kalt., was lightly infesting the leaves and pods of lima beans near Rio Piedras, February 26. (R. Faxon; P.W. Mason det. Apparently not previously recorded from Puerto Rico.)

A pentatomid bug, Thyanta perditor Fab.. Adults were present in moderate numbers on the leaves in a 3-acre patch of lima beans at Loiza, February 7. (A.S. Mills; H.G. Barber det.)

A noctuid, Prodenia eridania Cram. (Wm. Schaus det.), was moderately infesting tomato fruits which the larvae were eating out, at the Vivell farm at Rio Piedras, February 15. (R. Faxon.) Larvae of a noctuid, Prodenia eridania Cram., were found to be eating many of the leaves in a 5-acre field of Irish potatoes on the Ellsworth farm at Cidra, February 5, and a light infestation of the larvae was found on foliage of a 5-acre field of peppers on the Cabrera farm at Loiza on February 8. (A.S. Mills; W. Schaus det.)

The corn ear worm, Heliothis obsoleta Fab., was heavily infesting the ears in 4 boxes of corn from Anasco, March 7. (A.G. Harley; C. Heinrich det.)

An adult of the fall army worm, Laphygma frugiperda S. & A., was found on an eggplant leaf at Isabela, March 8. (C.G. Anderson; Wm. Schaus det.)

A heavy infestation of the tobacco flea beetle, Epitrix parvula Fab., was found on 20 eggplants examined at the Cabrera farm at Loiza, March 14. (A.S. Mills; H.S. Barber det.)

A eulophid, Chrysocharis parksi Cwfd. Adults were reared from pupae of Agromyza pusilla Meig., mining in pea leaves at Cidra, February 26; 30 per cent of the dipterous pupae were parasitized with this or another species.

A bug, Piezosternum subulatum Thunb. (H.G. Barber det.) A small number of adults were found on garden pea leaves in a small patch on the Vivell farm at Trujillo Alto, February 5. (A.S. Mills.)

The tamarind pod-borer, Sitophilus linearis Hbst. Adults and larvae were found feeding in one pod in a crate of tamarinds for shipment to the States, February 25. (C.G. Anderson; L.L. Buchanan det.)

INSECT CONDITIONS IN COSTA RICA DURING MARCH AND APRIL, 1932

C. H. Ballou

San Jose, Costa Rica

The citrus blackfly (Aleurocanthus woglumi Ashby) is very abundant and injurious in Maceta and Central.

Scale insects are quite troublesome on both the older trees and the newly-budded stock. Among the species occurring in numbers are Lepidosaphes beckii Newm., Saissetia hemisphaerica Targ., and Coccus hesperidum L.

Grasshoppers (various species) are very destructive to the tender leaves of the newly-budded citrus stock.

Avocado weevil borers (Conoturus constrictus Champ., and Conoturomimus sp.) were found damaging avocado trees at San Jose. These insects are attacked by a microgasterid parasite of apparently a new species and maybe a new genus.

A mining scale (Howardia biclavis Const.) was found causing damage to Japanese persimmon at San Jose.

A membracid (Aconophora pallescens Stal) was found injuring young shoots of papaya March 22 at San Jose.

A pentatomid (Thyanta perditor Fab.) causes the blossoms of peach to fall. These were active on April 4 at San Jose.

The white peach scale (Aulacaspis pentagona Targ.) is quite seriously infesting peach and mulberry, and to a lesser extent mango, in the San Jose area.

A scale insect (Pseudischnaspis bowreyi Ckll.) was found infesting apple on March 22 at San Jose.

A flea beetle (Eritrix fuscata Jac.-Duv.) was damaging tomatoes from March 22 to April 23 at San Jose.

A leaf-footed bug (Lentoglossus zonatus Dall.) was very abundant and apparently quite harmful to tomato fruits during the third week in April.

A bug (Engytatus notatus Dist.) was observed damaging tomatoes at San Jose March 22 and was still active in the field by the end of April.

INSECT CONDITIONS IN HAITI FOR THE MONTH OF APRIL, 1932

by

Andre Audant

Service National de la Production Agricole

Port-au-Prince, Haiti

Considerable damage to coffee plants is reported from the southern part of Haiti by the coffee cricket (Chremon repentinus Rehn). The green scale (Coccus viridis Green) is also present on the leaves.

A yellowish scale, Aspidiotus destructor Sign., is severely damaging coconuts.

The bean leafhopper (Empoasca fabalis De Long) is found on beans and is causing considerable damage in transmitting the "yellows" disease.

Swarms of termites, mostly Nasutitermes morio Latr. and Cryptotermes brevis Walk., have been emerging all through the rainy days of the latter part of the month.

The striped citrus curculio (Prepodes 4-vittatus Oliv.) was feeding on the citrus leaves of trees located on the Experimental Ground of the Damien Station, together with two other beetles Lechnopus atramentarius Gyll. and L. proteus Oliv.

Young papayas, especially of the larger varieties, are infested with larvae of the papaya fruit fly (Toxotrypana curvicauda Gerst.). The flies are not very abundant, since the laborers are picking up the infested fruits to burn them.

Citrus fruits in Port-au-Prince have been quite severely infested with a black fly (Aleurodicus minimus Quaint.), the purple scale (Lepidosaphes beckii Newm.), and the citrus mealybug (Pseudococcus citri Risso).

The West Indian fruit flies (Anastrepha striata Schin.) are infesting mangoes. The infestation, rather light on the better varieties, is quite severe on the common so-called "Mango Jeremie."

The palm leaf skeletonizer (Homaledra sabalella Chamb.) is infesting the leaves of the latanier (Sabal domingensis) in the Cul de Sac Plain.

The melon aphid (Aphis gossypii Glov.) has been reported from many melon patches in the vicinity of Port-au-Prince.

INSECT PEST SURVEY BULLETIN

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THE MORE IMPORTANT RECORDS FOR JUNE, 1932

Over part of the Great Plains area where grasshoppers were destructive last year, wet weather has occasioned some disease among grasshoppers and materially advanced crops and other vegetation to such an extent that damage will undoubtedly be less severe than last year. In the northern part of this area, however, the weather has been hot and dry and serious damage is anticipated where control measures have not been possible.

The Mormon cricket appeared in outbreak numbers in southern Idaho.

The pale western cutworm is doing considerable damage in western North Dakota and scattered localities throughout Montana.

Armyworm infestations are quite generally distributed over Iowa, southeastern Nebraska, and eastern Kansas.

The Hessian fly and the chinch bug situations have not materially changed since last month.

Sod webworms are reported as quite generally prevalent from the southern Middle Atlantic States westward to Nebraska.

The rose chafer is reported in destructive abundance throughout New England, New York, Michigan, northern Indiana, and Nebraska.

There was no material increase in abundance of the more important apple and peach insects.

A European leaf curling apple midge (Dasyneura mali Kieff.) is recorded from Massachusetts. This appears to be the first American record.

A cherry sawfly leaf miner (Profenusa collaris MacG.) is recorded for the first time from the State of Michigan.

The vegetable weevil is recorded from 9 previously unrecorded counties in Alabama and 1 county in Texas. This does not materially advance the general distribution of this pest.

larvae of a weevil (Phytonomus rumicis L.) was found in destructive numbers on commercially grown sorrel in Connecticut. This European pest first recorded in this country in Iowa in 1917.

The Colorado potato beetle appears to be abnormally abundant over the greater part of the Eastern States this year.

The Mexican bean beetle increased rapidly during the month and was reported in destructive numbers throughout the greater part of its range. This insect was found for the first time in Illinois this month.

The pea aphid is making decided inroads on the cannery pea crop in Ohio, Michigan, and Wisconsin.

The pink boll worm has been discovered this spring in Florida at Miami and extending south to Key West. The infested region is some 400 miles from commercial cotton plantings.

The European pine shoot moth is now in flight in New England and is appearing in increasingly destructive numbers in that region and in New York State.

A Japanese weevil (Pseudocneorrhinnus setosus Roelofs) which was first recorded in New Haven, Conn., in 1920, is this year proving to be somewhat of a pest of privet and barberry.

THE MORE IMPORTANT ENTOMOLOGICAL FEATURES IN CANADA, FOR JUNE, 1932.

The grasshopper situation is serious in the Prairie Provinces, particularly in southern and central Manitoba, where the worst outbreak in more than fifty years is reported over a wide territory. Widespread areas are also affected in south and central Saskatchewan, but although the outbreak is severe it is less intense than in Manitoba. The situation in Alberta is much better than was anticipated, a general heavy downpour of rain early in May having caused a high mortality of the young nymphs. The species involved throughout the affected territory are the lesser migratory, two-striped, and clear-winged grasshoppers.

Over a large part of Saskatchewan and Alberta, the pale western cutworm is again in severe outbreak form, and is causing very serious crop losses. The outbreak is considerably more extensive than in 1931. The army cutworm also has increased materially in the Prairie Provinces, outbreaks having occurred in many localities in southern Alberta and southwestern Saskatchewan, where important crop damage, usually mixed with pale western cutworm damage, was effected. Army cutworm moths were present in great numbers and have attracted much attention, not only in Alberta and Saskatchewan, but also in southern Manitoba, where the species is not a pest. Another species, the red-backed cutworm, is occurring over a wide territory in the Prairie Provinces, but severe damage has been done only in localized areas, notably in Manitoba.

Wireworms caused severe damage to wheat in western Saskatchewan, and to sugar beets, locally, in southern Alberta, this spring. Moisture conditions were favourable to wireworms in the affected areas.

Moths of the beet webworm have been extremely abundant in Alberta, Saskatchewan, and Manitoba, and very heavy and widespread outbreaks of the larvae are indicated. Weeds such as lamb's quarters and Russian thistle are chiefly subject to attack, but the species is also a pest in gardens.

A large flight of June beetles (Phyllophaga anxia Lec.) occurred in eastern Ontario, in late May and June, over an area of possibly 1,500 square miles. Heavy damage to crops by the resultant grubs is considered probable in 1933.

Outbreaks of flea beetles, notably the potato flea beetle, are reported from southern Ontario affecting potato, tobacco, and other plants.

Adults of the oriental fruit moth commenced emerging much later than in 1931 in the Niagara district, Ontario. The first-brood infestation is lighter than it has been in any spring since the species became of economic importance as a peach pest in southern Ontario.

A serious outbreak of grape leafhoppers developed in the Niagara fruit district in Ontario.

The balsam bark louse, Dreyfusia piceae Ratz., continues to spread slowly in southern New Brunswick and now extends up the St. John River Valley a distance of a little more than 50 miles from the coast. This insect occurs throughout Nova Scotia, where it is one of the most important forest insect pests.

Heavy infestations of the western willow leaf beetle occurred over wide areas in Saskatchewan and Alberta, resulting in severe defoliation of poplar and willow in the affected territory.

In sections of southern Manitoba, several species of deciduous trees have been completely or partially defoliated by the fall canker worm. The outbreak of this insect in New Brunswick, which was moderate in 1931, has intensified somewhat, and much defoliation of elm and basswood has occurred.

The larch case bearer continues in outbreak form over a large part of eastern Canada and in many sections severely defoliated larch.

Ticks are reported as unusually abundant in wooded areas in parts of Manitoba and Alberta, and sections of British Columbia. Several species are involved. In addition to attacking wild and domestic livestock, cases were reported from Vancouver Island and coastal districts of British Columbia, of ticks attaching themselves to humans.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Rhode Island A. E. Stene (June 23): A report came in today from one of the islands in the Bay stating that grasshoppers were eating heavily.
- Georgia O. I. Snapp (June 16): Grasshoppers are more abundant than usual around Fort Valley, damaging corn and other crops. It has been necessary to use poisoned-bran bait in some cornfields.
- South Carolina A. Lutken (June 24): A farmer in Pickens County reported millions of grasshoppers destroying cotton. Upon examination about a dozen colonies of several hundred each were found. Several hundred cotton plants had been destroyed. The grasshoppers were very small and the species was not determined.
- Indiana J. J. Davis (June 27): ^{reports of} No/serious outbreaks have been received, although ^{grasshoppers} / were reported abundant at Jasonville June 14.
- Kentucky W. A. Price (June 25): Grasshoppers, mostly small nymphs, are moderately abundant in the bluegrass.
- Michigan R. H. Pettit (June 22): Grasshoppers are very abundant. The species involved are Melanoplus mexicanus Sauss., Camnula pel-lucida Scudd., and M. femoratus Burm.
- Wisconsin C. L. Fluke (June 24): Grasshoppers are very abundant.
- Minnesota A. G. Ruggles (June 27): Grasshoppers are very abundant; 46 counties being helped.
- North Dakota J. A. Munro (June 18): Grasshoppers are a serious menace to crops in many counties. The northeastern section of the State is hardest hit. The insects are still wingless. There will be tremendous loss of crops. (June 23): Fungus has caused almost complete destruction of grasshoppers in two small areas in Cass County--at Tower City, and near Fargo. Yesterday near Fargo what was an exceedingly heavy infestation of hoppers showed nothing but the dead bodies of the insects clinging to the tops of weeds and small grains. Fully 95 per cent were killed. The report regarding the other area stated that about the same percentage had died. Poisoned bait had not been spread at either place. Apparently all the hoppers have completed hatching. About 5 per cent of the earliest hatches have become winged.
- F. D. Butcher (June 13): More than 90 per cent of the nymphs of M. bivittatus Say are out now and nearly as many of C. pel-lucida, though they are a bit later than the former. Have

found a few scattering pods of M. differentialis Thos. and of either M. femur-rubrum DeG. or M. mexicanus in which no hatching has occurred, but these species are scarce. (June 20): Adult of C. pellucida and first adult of M. bivittatus.

Iowa C. J. Drake (June 22): The infestation is very heavy in western Iowa. Although numerous and extremely heavy rains have destroyed many young hoppers, the population in some fields runs as high as 50 to 500 per square yard. In one small field of oats in Pottawattamie County, A. D. Worthington, Extension Entomologist, and the County Agent, estimated the population to average around 2,000 per square yard. The first adults of the 2-striped grasshopper were observed in barley fields near Sioux City, June 21. A few adults of M. mexicanus have been observed in Story, Harrison, and Pottawattamie Counties. M. differentialis is the most common and abundant species, but hatching is not complete. The number of first-instar nymphs of this species is increasing every day in the field. Poisoned-bran mash is being scattered by many farmers in western and central Iowa. Several species of blister beetles are just beginning to appear in large numbers in Iowa.

Missouri L. Haseman (June 20): Grasshoppers are very abundant in some districts but June rains are favoring crops.

Nebraska M. H. Swenk (June 1 to 20): During the month the grasshopper situation has developed principally along three lines: (1) the continued hatching of eggs, (2) a great reduction in the grasshopper population of the northern and northeastern heavily infested counties by heavy rains and floods, and (3) an increase in the grasshopper population in parts of western and especially southwestern Nebraska. By June 1 eggs of the two-striped grasshopper had largely hatched on the upland south slopes, but those on the north slopes, and those in the lower ground, the latter chiefly of the differential grasshopper, were only about 60 per cent hatched. Hatching has continued through June to date, and at present probably not more than 10 to 15 per cent of the eggs of both species together, on the average, remain unhatched. The largest number of unhatched eggs is to be found in the western counties. Heavy beating rains during the nights of May 24 and 25 over much of the heavily infested northeastern area were mentioned as destroying a part of the hatch of the two-striped grasshopper. Similar rains over this area on June 1, and on several dates subsequently, have reduced the grasshopper population in this badly threatened district very materially, perhaps 50 per cent. But in parts of this area still, and over a large section of western Nebraska where little rain has fallen during May and June to date, grasshoppers remain menacingly abundant locally and threaten serious crop damage.

Nebraska H. R. Bryson (June 24): Apparently grasshoppers are more numerous in the vicinity of Manhattan this season than last

season. Judging from the number of requests for information regarding the formula for mixing the poisoned bran mash, grasshoppers are quite numerous in a number of localities. Reports from Hepler, Mapleton, Byers, Silver Lake, and Oneida indicate that grasshoppers are a menace in those localities.

- Alabama J. M. Robinson (June 20): Grasshoppers are very abundant in Ashland.
- Mississippi C. Lyle (June 23): More than the usual number of complaints have been received recently. Specimens did not accompany these complaints. Cotton, soy beans, flower gardens, etc., were reported attacked.
- Idaho C. Wakeland (June 24): Grasshoppers are quite numerous in Bingham and Cassia Counties and are being fought by the use of poisoned bran mash. They are also reported from Elmore County as becoming numerous enough to warrant poisoning operations.
- Nevada G. G. Schweis (June 21): Grasshoppers are very abundant in western Nevada. Vigorous control program is in progress.
- Oklahoma C. F. Stiles (June 21): Grasshoppers are very numerous along creek banks, fence rows, and in pasture lands in practically all of southwestern and south-central Oklahoma. A number of species are present, but perhaps the most numerous are M. femur-rubrum, and M. differentialis.
- Nevada Agric. News Service, University of Nevada, Agric. Ext. Div. (June 13): Large kills of grasshoppers have been reported by farmers in various parts of Lyon County.
- Wyoming A. G. Stephens (June 24): Grasshoppers are moderately abundant in northeastern and central Wyoming.
- Utah G. F. Knowlton (June 10): Grasshoppers are becoming very abundant and seriously damaging in the Ouray Valley, and are causing some damage in the Bennett, Wilson, and south Ashley Valley sections of the Uintah Basin. The grasshopper situation continues to become more serious in parts of Millard County. (June 20): Reports just received indicate that grasshoppers are becoming dangerously abundant in parts of Salt Lake County, and at Kanarrville, in Iron County. They are also abundant in parts of Sanpete, Sevier, Millard, and Tooele Counties.
- California E. O. Essig (June 8, 10): Abundant in upland meadows in the Sierra foothills near Eldorado.
- Canada Daily Digest, Press Service, Office of Information, U.S.D.A., (June 24): A Winnipeg dispatch today states that a swarm of grasshoppers so thick that they delayed a passenger train was reported from southwestern Manitoba yesterday.

MORMON CRICKET (Anabrus simplex Hald.)

daho

C. Wakeland (June 24): Crickets were first discovered this year when they were found making their way to agricultural land on irrigation water out of the Fort Hall Canal. Traced to their source it was found that they were migrating from range land on the east side of the canal in very large numbers. Steps were immediately taken by the residents of that section and canal barriers erected and trenches dug. For three weeks volunteers turned out in large numbers constructing hand-dug trenches, estimated to be at least 40 miles in length. On the bottoms of these trenches pits were dug for trapping the crickets. As long as soil was moist trenches proved to be almost entirely effective but when the soil surface dried in some of the soil types they could crawl up the sides freely and escape. In the fight that has been waged there have been literally hundreds of thousands, possibly millions, of crickets killed, yet there are countless hordes remaining. No great damage has been done to cultivated crops, primarily, I believe, because of the cool, moist weather conditions and the abundance of succulent vegetation on their native range. The first adults were found on June 14. We have found large bands of crickets in Bingham County on the Indian Reservation, in Bonneville County in the dry-farming area, and in Fremont County. Two more outbreaks were reported in Elmore and Ada Counties.

FIELD CRICKET (Gryllus assimilis Fab.)

orth Dakota

J. A. Munro (June 18): Newly hatched nymphs of the common black field cricket were noticed at Fargo during the first week of June. Their abundance at this time indicates that they will prove a troublesome pest this season.

CUTWORMS (Noctuidae)

isconsin

E. L. Chambers and assistants (June): Cutworms were reported as seriously damaging a wide variety of crops early in June. The main center of infestation was in a band extending from Marinette and Door Counties southwestward to Crawford County, with another area across the northwestern part of the State.

orth Dakota

J. A. Munro (May 31): Just had a telephone call from the County Extension Agent at Williston stating that cutworms had completely destroyed a 70-acre field of wheat near Williston, Williams County. From his description I judged that they were the pale western cutworm (Porosagrotis orthogonia Morr.). The County Extension Agent at McKenzie County also reports the prevalence of this species. (June 18): Many reports of serious injury by the pale western cutworm have been received from Mountrail, Williams, McKenzie, and other western counties. Few reports of cutworm injury have been received from the eastern part of the State.

- South Dakota H. C. Severin (June 13): Cutworm damage has been more severe than usual in South Dakota this spring. Damage is letting up some at present writing.
- Iowa C. J. Drake (June 22): The variegated cutworm (Lycophotia margaritosa Haw.) is extremely abundant in alfalfa fields and doing a considerable amount of damage throughout a large portion of Iowa.
- Kansas H. R. Bryson (May 27): Report from Great Bend states that the larvae of Nomophila noctuella D. & S. destroyed the new growth of grass on 4 or 5 acres of native prairie sod.
- Nebraska M. H. Swenk (June 1 to 20): Along with the armyworm Cirphis unipuncta Haw. in the alfalfa fields, during the second week in June, were considerable numbers of the variegated cutworm (L. margaritosa saucia Hbn.) in Lancaster, Johnson, and Pawnee Counties, but apparently not extensively elsewhere in the State. In some fields the second cutting of hay was eaten back quite severely in these three counties.
- Tennessee G. M. Bentley (June 22): Black cutworms (Agrotis ~~apollon~~ Rott.) are moderately abundant.
- Montana A. L. Strand (June 21): The pale western cutworm, P. orthogonia, occurred in outbreak numbers in scattered localities throughout the State. In Valley County approximately 16,000 acres of grain, mostly wheat, was destroyed.

CALIFORNIA TORTOISE SHELL (Aglais californica Bdv.)

- California E. O. Essig (June 13): The caterpillars have defoliated several hundred acres of Ceanothus, which is a good cattle feed, in the Sierras, chiefly at from 3,000 to 6,000 feet altitude, although the butterflies are now found plentiful and some caterpillars are evident as high as 8,000 feet. The butterflies occur in thousands in some areas along the American River.

WHITE-LINED SPHINX (Sphinx lineata Fab.)

- West Virginia L. M. Peairs (June 25): S. lineata has been abundant in Morgantown, and has been so as far west as Wheeling, since about the first of June.
- California F. H. Wymore (June 22): The adults have been very common near Davis since about April 20 to the present time. One full-grown caterpillar was taken at Laurel Beach, Lake County, on June 6 and four were received from Del Loma on June 12.

WHITE GRUBS (Phyllophaga spp.)

- Virginia C. R. Willey (June 25): White grubs are very abundant near Richmond, Henrico County, and in adjoining counties; heavy infestations in Loudoun County.
- Illinois W. P. Flint (June 15): Very heavy June beetle flight reported from McHenry and Carroll Counties continued into June. Defoliation of oak trees practically complete in areas affected.
- Michigan R. Hutson (June 11): June beetles are very numerous in Battle Creek, Clinton, Howell, Kalamazoo, Monroe, Saginaw, and Sault Ste. Marie.
- Wisconsin E. L. Chambers and assistants (June): Severe defoliation by adults and rather large infestations of larvae were reported from 11 counties in the southern and western parts of the State.
- C. L. Fluke (June 24): White grubs are very abundant. Adults are very numerous in southwestern Wisconsin; they are now laying eggs.
- Iowa C. J. Drake (June 22): June beetles, Brood A, are appearing in large numbers in eastern and southern Iowa, and in many instances trees are being defoliated. At Hampton a number of trees were dusted by means of an airplane. A nursery man living near the grove reports that many beetles have been killed. During the past few years white grubs have caused heavy losses in western and southern Iowa, particularly in Decatur and Wayne Counties. Brood B destroyed about 75 per cent of an oat field near Marshalltown. The grubs stopped feeding and migrated down deeper into the ground to form pupal cells about three weeks earlier than Brood A did last spring.
- Nebraska M. H. Swenk (June 1 to 20): White grubs are moderately abundant and injurious in strawberry beds during the period here covered, in an area from Douglas and Cass Counties west to Hamilton County.

A WIREWORM (Heteroderes laurentii Guer.)

- Alabama K. L. Cockerham (June 15): Reports by farmers and produce men of Bay Minette indicate that February and March planted corn and spring-planted snap beans were very seriously damaged. The species causing this damage wasn't known, but it is presumed that it is H. laurentii since that seems to be the predominating species of that section. On the above date young larvae of this species were observed feeding on late-planted corn at Foley. The larvae were so small, however, that they will likely not affect the stand or do any considerable damage. Measurements of larvae collected indicated that

they were 3 to 4 weeks old. The presence of these larvae indicates that egg-laying in the field has occurred early this season, although we have not yet obtained eggs from isolated females in the laboratory.

Kansas

H. R. Bryson (June 24): Wireworms Acolus amabilis Lec., (Dra-sterius elegans) reported injuring newly planted corn and sorghums at Eureka.

JAPANESE BEETLE (Popillia japonica Newm.)

Pennsylvania
and
New Jersey

C. H. Hadley and assistants, U. S. D. A. Japanese Beetle Lab (April): Population surveys during the month of April indicate a marked increase in nearly all of the older infested area in southeastern Pennsylvania, as also locally in the corresponding section of New Jersey. Most localities in the latter State, however, show a decrease as regards infestations of more than a few years duration.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Maine

C. R. Phipps (June 25): This insect was noted in great numbers in Cumberland County feeding upon apples, raspberry foliage, and rose bushes on June 21. Light sandy soil provided ideal breeding ground.

New Hampshire

J. G. Conklin (June 23): The rose chafer is present in very great numbers through the State. Several poultrymen have reported loss of young chicks because of this pest.

Connecticut

C. M. Chapman (June 15): Eight or ten people have shown me very serious damage being done by chafers on a wide number of plants and shrubs in Danbury.

Rhode Island

A. E. Stene (June 23): Rose bugs are unusually prevalent in some places. Even greenhouse men have had trouble from rose bugs defoliating geraniums.

Massachusetts

A. I. Bourne (June 24): Rose chafers have been more abundant throughout the State than for many years. In addition to their injury to foliage there have been many instances where the beetle has gouged deep scars into the young developing fruit of both apple and peach.

New York

P. M. Eastman (June 26): Reports of injury are continually being brought to our attention. Letters and specimens are received nearly every day from persons living in an area from the Canadian line to New York City.

New York State Coll. of Agr., Weekly News Letter (June): About the middle of the month the rose chafer became excessively numerous throughout the State and was reported in unprece-

mented numbers in Ulster and Dutchess Counties. (Abstract, J.A.H.)

Michigan R. H. Pettit (June 17): Rose chafers are just appearing. They are in large numbers and are doing great damage.

Indiana J. J. Davis (June 27): The rose beetle has been very abundant in the northern part of the State damaging all kinds of garden plants; and they were responsible for killing many chickens and young ducks.

Nebraska M. H. Swenk (June 20): Hundreds of young chickens were reported killed by eating rose chafer beetles in Lincoln County during the first week in June,

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Ohio T. H. Parks (June): In southern and central counties the infestation has increased over last year. Not much damage has been done to the wheat as the infested straws are not broken over though some fields average between 30 and 40 per cent of the straws infested. The annual wheat insect survey is now in progress.

Indiana J. J. Davis (June 27): Hessian fly is quite general over the State with some sections, notably the southwest corner, with very heavy infestations. Early in June frequent reports were received from central Indiana of noticeable fallen wheat.

Illinois J. H. Bigger (June 17): The Hessian fly is very abundant over western Illinois. Many fields of wheat are not worth cutting because of damage. It is easy to see fallen straws while driving by the fields. Some fields are already plowed under.

S. C. Chandler (June): Infestation in most fields examined in southern Illinois is heavy.

Nebraska M. H. Swenk (June 1): The Hessian fly is very abundant in a large area in southeastern Nebraska. The infestation has expanded somewhat and been greatly intensified during the past six weeks. There are two distinct areas of serious infesta-

tion--an eastern area and a western area. Altogether 20 Nebraska counties are involved, either wholly or in part, in the areas of serious infestation. (June 20): The only new development in the infestation since my report of Jan. 1 is that the western area of infestation has been found to extend from northwestern Buffalo County into eastern Dawson County and southwestern Custer County. The infestation is light over this area, a typical field near Callaway, Custer County, showing only 27 per cent of the stems infested with an average of slightly less than 1 puparium per stem.

Missouri

L. Haseman (June 20): Hessian fly surveys show heavy infestation and much lodging of wheat.

WHEAT STRAW WORM (Harmolita grandis Riley)

Utah

G. F. Knowlton (June 15): Some winged adults have now matured in northern Utah. Infestations have ranged from 0 to 30 per cent with most samples showing less than 10 per cent.

CHINCH BUG (Blissus leucopterus Say)

Connecticut

W. E. Britton (June 23): Occasionally there are complaints of dead brown patches in lawns at Hartford where there are a great many individuals.

South Carolina

A. Lutken (June 24): Chinch bugs moving out of grain fields have caused severe damage to small cornfields in localized areas.

Iowa

C. J. Drake (June 22): The chinch bug is extremely abundant in Lee and Des Moines Counties. In a few instances the bugs have started to migrate from small grain into cornfields.

Missouri

L. Haseman (June 22): In central Missouri migration from wheat to corn began June 9 and in most fields the migration is now about over. Bugs are less abundant than expected.

Nebraska

M. H. Swenk (June 20): Chinch bugs are moderately abundant.

Kansas

H. R. Bryson (June 24): Chinch bugs are very abundant in south-central Kansas. They are causing considerable injury to rowed crops in south-central and southeastern Kansas. Injury has been reported from Cambridge. The population at Manhattan is much greater than at any time since 1927. They moved from plots of thin wheat at the college agronomy farm in sufficient numbers to cause considerable injury to adjoining corn plots.

Oklahoma

C. F. Stile (June 21): Chinch bugs are quite numerous in central and northern Oklahoma and doing considerable damage to corn and grain sorghum.

Mississippi

R. B. Deen (June 21): A heavy infestation of chinch bugs in a 10-acre field of corn at Greenwood on June 20. Severe damage was noticed.

BLACK STINK BUG (Cosmopepla bimaculata Thom.)

Kentucky

W. A. Price (June 25): C. bimaculata was seen by the thousands marching from barley fields in Fayette County.

CORN

ARMYWORM (Cirphis unipuncta Haw.)

Maine

C. R. Epps (June 25): Moths are being taken in much greater numbers than during the past two summers.

Iowa

C. J. Drake (June 13): Western Iowa is heavily infested. These pests are doing considerable damage in a number of fields of small grain. The infestation seems to extend from Mills County to north of Sioux City, spreading eastward. Infestation is pretty general over western Iowa. (June 22): Thousands of acres of rye, wheat, barley, and oats have been totally destroyed. In a 900-acre field of wheat in Harrison County the farmer scattered poisoned bran mash by means of an airplane. In a number of instances armyworms have migrated from small grain to adjoining fields of corn. In Woodbury County the county agent estimated that the worms destroyed a field or two of small grain on 500 different farms. The worms are just beginning to appear in the central portion of the State. Along the Missouri River most of the worms have pupated.

Nebraska

M. H. Swenk (June 20): As a result of the unusual abundance of moths flying in southeastern Nebraska during the third and fourth weeks in May, there was a severe outbreak of this pest that started June 7 and is now largely, but not completely, over. According to our data, the most severe trouble was experienced in the southeastern part of the State, with outbreaks--also in Dakota, Boone, and Greeley Counties.

Kansas

H. R. Bryson (June 24): The true army worm has been causing injury to wheat at Manhattan. Injury consisted in defoliation and cutting the beards. Similar injury was reported from Lincoln.

CORN EAR WORM (Heliothis obsoleta Fab.)

South Carolina

A. Lutken (June 24): The corn ear worm is, in general, very abundant. At Calhoun Falls just the first larvae moved out of a field of crimson clover and destroyed about 14 acres of young cotton. A similar outbreak was reported from York; and

at Walhalla some damage occurred when larvae left the vetch cover crop in an apple orchard and destroyed some of the small apples.

Georgia

O. I. Snapp (June 8): The corn ear worm is causing much damage to tomatoes in gardens in Fort Valley.

C. H. Alden (June 21): This insect is very abundant at Cornelia.

Florida

J. R. Watson (June 24): Very abundant over the State in practically every ear as usual.

Ohio

T. H. Parks (June 18): A moth was caught at a trap light exposed at a height of 450 feet on the top of a building in Columbus.

Kentucky

W. A. Price (June 25): The corn ear worm is moderately abundant on tomatoes.

Mississippi

C. Lyle and assistants (June): This insect was reported as quite generally abundant throughout the State. In one case at Corinth 90 per cent of the vetch seed was destroyed in one patch. The insect is also reported as attacking its usual food plants in other parts of the State. (Abstract, J.A.H.)

California

R. E. Campbell (May 28): Sweet corn in tassel in southern Los Angeles County is quite generally infested. Worms of all sizes are feeding in the tassel.

F. H. Wymore (June 22): Eggs were observed for the first time this season at Davis on June 13 by O. H. Lovell.

SOD WEBWORMS (Crambus spp.)

Vermont

H. L. Bailey (June 25): C. luteolellus Clem. was abundant in some cornfields near Montpelier, cutting off and mutilating young corn plants.

Maryland

E. N. Cory and staff (June 23): Reports from western Maryland, Baltimore County, and Eastern Shore, of sod webworms attacking corn.

West Virginia

L. M. Peairs (May 24): Sod webworms have been reported from the Northern Panhandle, Wheeling, Sistersville, and other localities as injurious to corn. (May 26): Additional reports of the insect have been coming in to such an extent that we may say we have the worst infestation on record in northern West Virginia. (June 14): I continue to receive information of the abundance of webworms in sod land, on strawberries, and even attacking tobacco.

- North Carolina C. H. Brannon (June 20): Sod webworm damage to corn is reported widespread in the mountains.
- Ohio T. H. Parks (June 3): Sod webworms have been quite destructive the past two weeks to young sweet and field corn in southeastern Ohio. It was necessary to replant in a few cases. Less than the usual injury was present in other parts of the State.
- Indiana J. J. Davis (June 27): Webworms reported damaging golf greens at Franklin and Greencastle June 16 and 17 respectively.
- Kentucky W. A. Price (May 26): Sod webworms have caused considerable damage to corn in Fayette and Bourbon Counties.
- Nebraska M. H. Swenk (April 20 to June 1): In Antelope County during the third week in May a field of corn was being badly injured.
- LESSER CORN STALK BORER (Elastopalpus lignosellus Zell.)
- Georgia O. I. Sharp (May 28): The lesser corn stalk borer is unusually abundant. A crop of sweet corn at Washington has been ruined.
- BEEF ARMYWORM (Larhyama exigua Hbn.)
- California R. E. Campbell (May 28): Larvae are attacking young corn up to the time it is a foot high in Los Angeles County. Actual damage is slight, as the corn outgrows it.
- SUGARCANE BEETLE (Eutheola ruficens Lec.)
- Virginia H. G. Walker (June 27): What appears to be the rough-headed corn stalk beetle has been reported as being very injurious to corn in the Newport News area.
- G. T. French (May 24): Specimens seriously damaging corn were collected at Foincenter, Louisa County.
- Illinois S. C. Chandler (June): This beetle has damaged 15 to 20 per cent of the hills in some cornfields in Jackson, Williamson, and Saline Counties. Beetles are disappearing from fields.
- Kentucky W. A. Price (June 25): The sugarcane beetle was received from Lexington, Russellville, and Caney Valley. The adults were feeding on young corn plants.
- Tennessee G. M. Bentley (June 22): Sugarcane beetles are moderately abundant in corn throughout the State.

Alabama J. M. Robinson (June 20): The sugarcane beetle is very abundant on corn in Auburn, on cane in Vincent and Trafford, and on corn in Montgomery, Ashland, and Heflin.

Mississippi C. Lyle (June 23): Young corn plants injured were received from Gloster on May 29 and from Michigan City on June 22.

CORN BILLBUGS (Calendra spp.)

Vermont H. L. Bailey (June 25): Billbugs were found unusually abundant in a large cornfield at North Hartland, June 2. The corn plants were badly damaged. Also reported from Chester.

North Dakota J. A. Munro (June 18): On June 8 a specimen of the clay-colored billbug (C. aequalis Gyll.) was received from Lidgerwood. In the letter accompanying the specimen was the statement, "I found this insect with a half Nelson on a chick's beak. It had him groggy....." On June 14 a specimen was received from Cooperstown, with a letter stating that the beetle was clamped on a chick's beak and would have strangled the chick if the beetle had not been removed. These are the first reports of injury to chicks received by this office since the summer of 1926. (June 20): I just received a letter from New Salem, accompanied by several specimens of the clay-colored billbug. "These insects were found attached to the throat of some chickens. I understand that some farmers lost a few chickens. You can hardly pull them loose after they are attached."

Nebraska M. H. Swenk (April 20 to June 1): A Richardson County farmer reported during the third week in May that for the second successive year corn billbugs (C. parvulus Gyll. and C. melanocephalus Fab.) had injured his field of young corn.

GRAPE COLASPIS (Colaspis brunnea Fab.)

Indiana J. J. Davis (June 27): The clover white grub (C. brunnea) destroyed half of a 30-acre field of corn near Williamsport.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Maryland E. N. Cory (June 23): C. pulicaria is very abundant on corn in western Maryland.

Kentucky W. A. Price (May 26): Flea beetles were reported on corn at Paris, Lexington, and Winchester. (June 25): Flea beetles have been abundant on corn at Lexington, Owingsville, and Louisville. They continue to be prevalent on tobacco over the State generally.

A FLEA BEETLE (Systema taeniata Say)

Ohio T. H. Parks (June 22): A field of corn near Grove City, Franklin County, was destroyed by S. blanda this month. Others

cies of flea beetles were bad on corn during May but most of the fields rapidly outgrew the injury.

Indiana

J. J. Davis (June 27): The pale striped flea beetle (S. ~~tae~~niata blanda Melsh.) was reported damaging tomato at Kokomo June 13 and to crops not reported at Albion June 21.

SEED CORN BEETLE (Agonoderus pallipes Fab.)

Nebraska

M. H. Swenk (April 20 to June 1): Cornfields around Stockville were reported heavily infested with seedcorn beetles, which abounded in the loose soil and destroyed the young plants.

CORN ROOT APHID (Asuraphis maidi-radicis Forbes)

Virginia

C. R. Willey (June 25): Much damage was reported in at least 90 per cent of a cornfield growing along the James River.

Indiana

J. J. Davis (June 27): The corn root aphid is abundant and destructive to sweet corn at Mt. Vernon.

Illinois

J. H. Bigger (June 17): The corn root aphid is much more numerous than normally. In examining 4,400 hills of corn on experimental fields 406 were found infested with aphids.

ALFALFA

ALFALFA WEEVIL (Hypena postica Gyll.)

Idaho

C. Wakeland (June 24): Alfalfa weevil is very abundant in the alfalfa fields of the Upper Snake River Valley, and injury is likely to be the most severe that we have experienced since 1923 or 1924.

Nevada

G. G. Schweis (June 21): Damage was severe in some valleys in western Nevada while in other localities the weevils were remarkably few.

Utah

G. F. Knowlton (June 20): Doing damage in the Uintah Basin areas. The county agent reports serious alfalfa weevil damage in many parts of Sevier County.

W. H. Larrimer (June 3): On May 12 R. A. Blanchard found a single specimen in San Joaquin Valley near Tracy. Subsequent scouting revealed a general infestation of probably several years and extending through several counties.

California

A. E. Michelbacher (June 20): Near Pleasanton the weevil can be found in moderate abundance in certain fields. Scarce at Niles.

LESSER CLOVER LEAF WEEVIL (Phytonomus nigristris Fab.)

Illinois J. H. Bigger (June 17): Counts in western Illinois, May 25 to 28, indicate from 7 to 8 per cent loss of the first hay crop and 25 per cent less of the first seed crop.

SPRINGWEED FLEA BEETLE (Systema hudsonias Forst.)

Virginia C. R. Willey (June 1): "We had 5 acres of Korean Lespedeza--a lovely stand--now nearly 2 acres are gone." This is the first time we have had a complaint of an insect damaging Lespedeza.

PEA APHID (Illinoia pisi Kalt.)

Kentucky W. A. Price (May 26): Aphids are so numerous on alfalfa at Lexington that one's shoes become spotted with honeydew.

North Dakota J. A. Munro (June 18): Large fields of sweet clover in Cass County have been practically ruined by the pea aphid this season. This is the first time that aphid injury to sweet clover in North Dakota has been noticed. Farmers are plowing under the infested fields. Recent reports indicate that the infestation is more widely distributed. I had a report that a large number of fields in Traill County are badly damaged by the pea aphid.

Iowa C. J. Drake (June 22): Extremely abundant throughout the State, especially in alfalfa fields. In the small pea-growing district it has been doing considerable damage.

Oregon L. P. Rockwood (June 4): Aphids decreased slowly in May. The reduction was due principally to the work of syrphid larvae. Aphids were from 20 to 25 per cent alates May 23. Aphids increased after May 15 on these crops much more rapidly on the peas than on the vetch. Vetch and peas are now too far along to be appreciably injured.

GRASS

THRIPS (Thysanoptera)

Missouri L. Haseman (June 20): The so-called oat bug or oat thrips (Anathothrips obscurus Mull.) has been very abundant in the air in central Missouri for the past week, June 16-23.

Nebraska M. H. Swenk (June 1 to 20): In Douglas County bluegrass grown for seed was heavily and injuriously infested with nymphal thrips of the species A. obscurus and Thrips tabaci Lind. during the second week in June.

FRUIT INSECTS

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- Delaware L. A. Stearns (June 23): Emergence of spring-brood moths ended June 14; 90 per cent had emerged between May 14 and 28; first brood injury to date 50 per cent lighter than in 1931.
- New York N. Y. State Coll. Agr., Weekly News Letter (June): The first moth was observed in the Hudson River Valley during the last week in May. The first eggs were observed in the field on June 3; and by June 13 eggs were present in considerable numbers in western New York. Young larvae were observed entering fruit on June 17 in the western part of the State and on June 11 in the lower Hudson River Valley. (Abstract, J.A.H.)
- Virginia C. R. Willey (June 25): Moths are very abundant at Richmond, Henrico County, and in adjoining counties.
- Georgia C. H. Alden (June 21): The codling moth is moderately abundant at Cornelia. First-brood worms are now entering fruit.
- Ohio T. H. Parks (June 26): In central and northern counties the emergence of the overwintering brood was heaviest during the first week of June but has been long drawn out and is still continuing. At Ironton, southern Ohio, larvae were leaving the apples June 13 and spinning under the bands.
- Illinois W. P. Flint (June 15): First pupation of the first brood was observed in Jackson County on June 8.
- J. H. Bigger (June 17): Very abundant at Jacksonville. Heavy emergence May 20 to 25 from hibernation cages.
- S. C. Chandler (June): The infestation in southern Illinois is greater than at this stage last year.
- L. H. Shropshire (June 23): In Cook County the height of emergence from cages occurred June 6, 7, and 8.
- Kentucky W. A. Price (June 25): Trap records and pupae in bands indicate that second-brood moths will be on the wing about June 25 or 27.
- Michigan R. Hutson (June 11): First-brood moth emergence is at its peak as determined by bait pans in Fennville.
- Wisconsin C. L. Fluke (June 24): Codling moth is more abundant than usual. Eggs began hatching May 30.

Missouri

L. Haseman (June 20): The peak of first-brood moths and larvae occurred during late May and the first days of June somewhat irregularly. Pupation is beginning at Columbia.

Nebraska

M. H. Swenk (April 20 to June 1): The first pupation of overwintering larvae occurred on April 15, with some pupation nearly every day since. The peak of pupation was reached on May 6. On June 1 a total of 445 out of 700 larvae have pupated. The first adult moth was caught in our bait traps on May 6. From that night to May 25 moths have been caught in the bait traps every night except six. The largest catch to date in our six bait traps occurred on the night of May 20, when 79 were caught. The first emergence of adult moths from 700 overwintering larvae in the insectary occurred on May 12. There has been some emergence each day since, except during the cool period on May 16 and 17. The peak of emergence in the insectary to date was on May 24. Egg laying started on May 18, since that date has steadily increased, and up to date 2,026 eggs have been laid.

Washington

E. J. Newcomer (June 22): Much cool weather in Washington during the last month has prevented codling moths from depositing as many eggs as during the same period in 1931. Up to June 18, 2,225 were captured in 5 baits, as compared with 2,740 moths during the same period in 1931 in 5 baits.

Oregon

D. C. Mote (June 24): The first codling moth larvae seen in apple in the Willamette Valley June 15, a month later than last year.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Maine

J. V. Schaffner, Jr. (June 17): In Maine, heavy infestations were noted north as far as Augusta, but farther north the infestations seemed to be lighter and more scattered.

New Hampshire

J. V. Schaffner, Jr. (June 17): In the southern part of New Hampshire heavy infestations have been reported.

Vermont

H. L. Bailey (June 25): The eastern tent caterpillar's feeding season has been prolonged to the middle of June.

Massachusetts

A. I. Bourne (June 24): The tent caterpillar was comparatively scarce in western Massachusetts, while in the eastern and south-eastern half of the State it was again very abundant.

Connecticut

W. E. Britton (June 24): The eastern tent caterpillar is scarce, but shows an increase over 1931.

New York

R. D. Glasgow (June 14): The orchard tent caterpillar appears to be more abundant on Long Island and throughout the Hudson Valley this year than it has been at any time during the past 3 years.

Pennsylvania J. N. Knull (June 1): Several pin oaks in the vicinity of Gettysburg, Adams County, were entirely defoliated.

Maryland E. N. Cory (June 22): Eastern tent caterpillars are very abundant.

Virginia C. R. Willey (June 25): The eastern tent caterpillar is very abundant on wild cherry and other hosts.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

Connecticut P. Garman (June 23): The fruit tree leaf roller is becoming abundant in the Wallingford district and doing considerable damage in at least one large commercial orchard.

New York N. Y. State Coll. Agr., Weekly News Letter (June): The leaf roller was reported as more numerous than during the last few years in Chautauqua, Ulster, Green, Orleans, Wayne, and Dutchess Counties.

GREEN FRUIT WORM (Graptolitha antennata Walk.)

New York N. Y. State Coll. Agr., Weekly News Letter (June): The green fruit worm is about as abundant as it was in 1930 in the Hudson River Valley and is doing more damage than usual in the Lake fruit belt. (Abstract, J.A.H.)

APHIDS (Aphidae)

Connecticut P. Garman (June 23): The rosy apple aphid (Amuraphis roseus Baker) developed mainly in June and is very abundant in several large orchards in the county.

Massachusetts A. I. Bourne (June 24): Aphids which during the early spring proved to be abundant very generally throughout the State had practically all disappeared by early June. They appeared to be for the most part the grain aphid (Rhopalosiphum prunifoliae Fitch) which migrated from the orchards in the early part of June.

New York N. Y. State Coll. Agr., Weekly News Letter (June): Fruit aphids as a group are decidedly below normal in abundance this year. During the latter half of the month they appeared to be increasing in the western part of the State, particularly the rosy apple aphid. (Abstract, J.A.H.)

Indiana J. J. Davis (June 27): The rosy apple aphid was reported abundant on apple early in June at Acton, Bedford, and Elwood.

Illinois S. C. Chandler (June): A quite general infestation of rosy aphid occurred in southern Illinois orchards. It is now being checked by parasites and predators.

- Michigan R. H. Pettit (June 22): Fruit aphids are very abundant.
- Missouri L. Haseman (June 20): Both the rosy aphid and the woolly aphid (Eriosoma lanigerum Hausm.) have shown up in abundance in central and southern Missouri.
- Washington E. J. Newcomer (June 22): The rosy apple aphid is more numerous in the Yakima Valley than for many years.

LEAFHOPPERS (Cicadellidae)

- Maine C. R. Phipps (June 25): Apple leafhoppers are very abundant.
- Connecticut P. Garman (June 23): Apple leafhoppers (Typhlocyba pomaria McAtee) are less abundant in New Haven County, although several severely infested orchards are known in both Hartford and New Haven Counties.
- New York N. Y. State Coll. Agr., Weekly News Letter (June): T. pomaria was quite generally prevalent early in the month throughout the Hudson River Valley and by June 20 was becoming winged. In the western part of the State it is extremely abundant and causing considerable damage, particularly in the Niagara district. (Abstract, J.A.H.)
- Michigan R. Hutson (June 11): Leafhoppers are numerous in some orchards of Ionia and Macomb Counties, enough to cause marked stippling of the leaves.

APPLE REDBUG (Lygidea mendax Reut.)

- Maine C. R. Phipps (June 25): For the first time this insect is recorded from Maine. Last season some apple leaves were sent in from Franklin County which appeared to be injured by redbugs. This season on June 8 several nymphs were collected and later adults were obtained from the same locality.
- Massachusetts A. I. Bourne (June 24): Redbug infestation was again rather spotty and practically every locality showed infestation, whereas in the same general region there were orchards which were comparatively free.
- New York N. Y. State Coll. Agr., Weekly News Letter (June): The apple redbug began transforming to the adult state during the second week in June in the Hudson River Valley. In the western part of the State this insect is extremely numerous and destructive. (Abstract, J.A.H.)

A LEAF-CURLING MIDGE (Dasyneura mali Kieff.)

- Massachusetts E. P. Felt (June 24): The leaf-curling apple midge has become established at Ipswich. Infested material presenting the general

characteristics of the work of this European insect has been received. This is presumably the first record of the occurrence of this insect in America.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

T. H. Parks (June 22): Work of this insect can be easily found in almost any orchard visited. It has increased greatly since last year.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

C. R. Phipps (June 25): The first flies appeared in our Cumberland County traps on June 20. These flies were from early varieties of apples. Our first flies appeared on June 19 in the same orchard in 1931. No flies have appeared as yet in our traps at Highmoor Farm from the same varieties.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

P. Garman (June): The first brood came in strong and is quite abundant in many young orchards.

P. J. Parrott (May 23): The first moth emerged May 20. (June 24): This insect is very abundant in western New York.

N. Y. State Coll. Agr., Weekly News Letter (June): During the last few days of May and the first of June this insect began infesting peach twigs; in Monroe and Wayne Counties it is steadily increasing. (Abstract, J.A.H.)

L. A. Stearns (June 23): The peak of first-brood twig injury was observed during the last week of May and the first week in June; injury has been moderate; first first-brood moths appeared June 18.

L. M. Peairs (June 23): The oriental fruit moth is moderately abundant at Morgantown. There has been more than the usual early work.

C. R. Willey (June 25): Oriental fruit moths are very abundant in Richmond, Henrico County and in adjoining counties.

O. I. Snapp (June 11): Practically all of the first-brood larvae have pupated by this date in Fort Valley.

W. H. Clarke (June 22): There is a moderate infestation of this insect in Hampton, Monticello, and Luella; a light infestation in Thomaston and Griffin.

- Ohio T. H. Parks (June 25): More injured terminals are found than usual at this time of year.
- E. W. Mendenhall (June 26): In Fairfield County I find the oriental fruit moth is doing considerable damage to peach orchards.
- Illinois S. C. Chandler (June): Twig infestation is more severe than last year. At present (June 16) second-brood larvae are hatching.
- Michigan R. H. Pettit (June 22): This insect is moderately abundant.
- Tennessee G. M. Bentley (June 22): This insect is moderately abundant.

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

- Maine C. R. Phipps (June 25): Very abundant. Considerable injury to apples in certain Cumberland County orchards.
- New York N. Y. State Coll. Agr., Weekly News Letter (June): During the last week in May the plum curculio emerged in large numbers and by the first of June damage was quite evident in the Hudson River Valley. By the third week in the month it was quite generally prevalent throughout the State, but on the whole the damage was not unusual. (Abstract, J.A.H.)
- Delaware L. A. Stearns (June 23): First-brood grubs commenced issuing from fruit during the last week in May. Drops are heavily infested.
- Virginia C. R. Willey (June 25): The plum curculio is very abundant in Richmond, Henrico County, and in adjoining counties.
- Georgia O. I. Snapp (May 31): The first pupation of the season was recorded today at Fort Valley. The first larvae remained in the soil 15 days before pupating. Pupation is unusually late this year. It is beginning 6 days later than last year and 16 days later than in 1930, when the pupation was considered late. The late pupation this year does not necessarily indicate one generation, owing to the fact that the peach crop is correspondingly late. (June 6): The first pupae to transform to beetles in soil cells were recorded today at Fort Valley. Transformation is beginning 5 days later than last year and 14 days later than in 1930. (June 10): The parasites Triaspis curculionis Fitch and T. curculionis var. rufus Riley are much more abundant than usual. This is especially true of rufus. (June 16): The first new adults of the season emerged from the soil today. We are expecting second-generation eggs within two weeks, and Hiley, Georgia Belle, and Alberta peaches will, in all probability, contain larvae of the second brood.
- W. H. Clarke (June 10): The first adults of the first brood emerged from life history cages today at Thomaston. (June 24): Very abundant. Heavy cage emergence.

Ohio

T. H. Parks (June 25): Very few curculio marks are to be found on apples though some are present on plums and a few on peaches in some orchards. The infestation is distinctly less than usual though greater than last year.

Illinois

S. C. Chandler (June): Apple orchards in southern Illinois have been injured severely because of the lack of fruit in the big peach orchards close by, and the curculios have concentrated on the apples. On account of the scarcity of fruit much damage has been done to peaches in southern Illinois. Jarrings at present indicate no let-up in the numbers feeding.

Michigan

R. H. Pettit (June 22): Plum curculios are very abundant.

North Dakota

J. A. Munro (June 18): H. O. Putnam reports the plum curculio as very abundant on wild plums in the vicinity of Bismarck.

Missouri

L. Haseman (June 20): The plum curculio bred earlier than usual this year. June 10 about 70 per cent of the early collection of worms were in the pupa stage and June 20 about 30 per cent were adults. Still feeding and breeding.

Mississippi

C. Lyle and assistants (June): The plum curculio is very abundant in the northern and northwestern parts of the State.

PEAR

NEW YORK WEEVIL (*Ithycerus noveboracensis* Forst.)

Massachusetts

A. I. Bourne (June 24): On June 10 our attention was called to injury in young pear orchards in Westfield, where the insects were injuring the twigs. These orchards were located in newly cleared land bordering on woods and sproutland.

A LEAF CURLING MIDGE (*Dasyneura pyri* Bouche)

New York

N. Y. State Coll. Agr., Weekly News Letter (June 6): Found the first pear leaf curling midge maggots on June 1 in the Hazen orchard in Ulster County.

CHERRY

BLACK CHERRY APHID (*Myzus cerasi* Fab.)

New York

N. Y. State Coll. Agr., Weekly News Letter (June): The black cherry aphid started to appear in threatening numbers during the first week in June in the Hudson River Valley and also in the Niagara district, and by the middle of the month it was quite numerous and troublesome. (Abstract, J.A.H.)

Michigan

R. H. Pettit (June 22): The black cherry aphid is very abundant.

CHERRY FRUIT FLIES (Rhagoletis spp.)

New York

N. Y. State Coll. Agr., Weekly News Letter (June): The cherry fruit flies began appearing during the first week in June in the Hudson River Valley. (Abstract, J.A.H.)

Michigan

R. H. Pettit (June 9): Several specimens of the black-bodied cherry fruit fly (Rhagoletis fausta O. S.) emerged at Gobles and at Lawrence yesterday morning.

CHOCKECHERRY MIDGE (Contarinia virginiana Felt)

Nebraska

M. H. Swenk (June 20): Chokecherries were badly damaged in an area extending from Howard County to Kearney County during the first half of June, by the chokecherry midge.

CHERRY LEAF MINER (Profenusa collaris Mac.)

Michigan

R. H. Pettit (June 18): We received today for the first time in Michigan the cherry sawfly leaf miner; it is working on English Merello cherries in the vicinity of Grand Rapids, and constitutes, I believe, a record for the State.

PEAR SLUG (Eriocampoides limacina Retz.)

Nebraska

M. H. Swenk (April 20 to June 1): The first eggs of the pear slug were noticed on cherry at Lincoln on May 22. (D. B. Whelan)

RASPBERRY

RASPBERRY SAWFLY (Monophadnoides rubi Harr.)

New York

N. Y. State Coll. Agr., Weekly News Letter (May 31): Sawflies are very plentiful in the raspberry sections of west New York. So far no larvae have appeared.

Nebraska

D. B. Whelan (April 20 to June 1): The larvae of the raspberry sawfly were from half to nearly full grown at Lincoln by May 15. Infestation moderate but not serious.

RASPBERRY CANE MAGGOT (Hylemyia rubivora Coq.)

Ohio

E. W. Mendenhall (June 8): The raspberry cane maggot was found in some of the raspberry plantations at New Carlisle. The pupa and the fly were observed.

RASPBERRY FRUIT WORM (Byturus unicolor Say)

ew York

N. Y. State Coll. Agr., Weekly News Letter (June): The raspberry fruit worm is causing severe damage in Erie County; and it is also more or less troublesome in the Hudson River Valley. (Abstract, J.A.H.)

RASPBERRY CANE BORER (Oberea bimaculata Oliv.)

hio

E. W. Mendenhall (June 8): The raspberry cane borer was found quite bad in some of the plantations at New Carlisle, Clarke County, and in Fairfield County.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

elaware

L. A. Stearns (June 23): The first individuals of the first-brood nymphs were observed June 7. Infestation is very light this year as compared with 1930 and 1931.

ew York

N. Y. State Coll. Agr., Weekly News Letter (June): The grape leafhopper is generally more abundant than it was last year throughout the State. (Abstract, J.A.H.)

alifornia

S. Lockwood (June 21): The grape leafhopper, while more numerous than normal, does not promise to do the damage this year that occurred in 1931. The area of infestation is not so large, evidently, nor is the infestation as heavy as last year.

GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

assachusetts

A. I. Bourne (June 24): Many complaints have been received. This insect is more abundant this year than normally.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

ew York

N. Y. State Coll. Agr., Weekly News Letter (May 31): Because of the extremely light winter, the possibility of a heavy infestation of the grape berry moth is likely in western New York, Chautauqua County.

elaware

L. A. Stearns (June 23): First spring-brood moths May 11, first first-brood eggs May 27, and first first-brood larvae June 3.

GRAPE ROOT WORM (Fidia viticida Walsh)

elaware

L. A. Stearns (June 25): Apparently more abundant this year than in several years past. Injury to foliage much more severe than in 1931.

Nebraska

M. H. Swenk (June 1 to 20): The grapes in the Brownville, Nemaha County, area vineyards were reported to be showing an unusual abundance of the beetles of the grape root worm during the middle of June.

WHITE OAK MITE (Tetranychus willamettei McG.)

California

E. A. McGregor (June): The white oak mite was discovered this spring severely attacking vineyards in southern Tulare County. So far as known, this is the first record of this pest in central California, and extends its known range southward by fully 200 miles.

PACIFIC RED SPIDER (Tetranychus pacificus McG.)

California

S. Lockwood (June 21): A spider mite, probably T. pacificus, has been noted as present but of no importance as yet to grapes over a large area of the San Joaquin Valley. The infested area this year extends from San Joaquin County to Kern County, though these mites are rather difficult to find at the time of writing, in the southern part of San Joaquin Valley.

CURRENT

IMPORTED CURRENT WORM (Pteronidea ribesii Scop.)

North Dakota

J. A. Munro (June 18): Currant worm injury was particularly noticeable during the fore part of June.

Nebraska

M. H. Swenk (June 20): First larvae emerged on April 23. The last reports of injury were received May 17 and 18. (D.B. Whelan). First adults emerged on June 3 and 4.

CURRENT APHID (Myzus ribis L.)

Michigan

R. H. Pettit (June 22): Currant aphids are very abundant.

Nebraska

M. H. Swenk (June 20): In Knox County currants were considerably troubled by attacks by the currant aphids during the early part of June.

PECAN

FALL WEBWORM (Hyphantria cunea Drury)

Georgia

J. B. Gill (June 26): Infestations are common in pecan orchards between Albany, Putney, and Baconton.

Alabama

J. M. Robinson (June 22): The fall webworm has appeared in Auburn.

Mississippi C. Lyle (June 23): The first colony observed in 1932 at State College was found in a pecan tree on June 21 by J. M. Langston. The colony was small.

PECAN BUDMOTH (Gretchena bolliana Sling.)

Mississippi G. L. Bond (June 18): Several outbreaks of this insect have been noted in the vicinity of Laurel.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Missouri L. Haseman (June 20): Colonies of young larvae have been hatching at Columbia since about June 15. They are very abundant.

Mississippi R. P. Colmer (June 19): The first walnut caterpillar was observed feeding on pecan at Moss Point, June 6.

PECAN PHYLLOXERA (Phylloxera devastatrix Perg.)

Mississippi C. Lyle and assistants (June): Rather severe infestations were reported from Warren, Jasper, Jackson, Monroe, Alcorn, Lincoln, and Tate Counties.

CITRUS

MEXICAN FRUIT FLY (Anastrepha ludens Loew)*

Mexico and Texas Plant Quarantine and Control Administration, News Letter, No. 18 (June 1): Only one adult Mexican fruit fly was taken in Matamoros, Mex., during April. Infestations have been found this season in 59 groves, in the brush on the arroyos south of Harlingen, Tex., near the burial pit at McAllen, and in a shipment of fruit in San Antonio. These infestations extended from Brownsville to Mission, but were heavier in the upper end of the Valley.

The first known larvae of A. pallens Coq. were taken on April 15. These larvae were feeding in the fruit of Bumelia anacardifolia, a shrub that is common throughout the brush lands of the Valley and known locally by the Mexican name La Coma. It is possible that other native fruits and berries may be hosts of this species but up to the present we have been unable to find the larvae feeding in other fruits. The Bumelia fruits seem to be rather heavily infested in spots and numerous pupae have developed from collected berries. No explanation is yet available to account for the presence of the adults in the citrus groves. A total of

*Correction: Under Anastrepha ludens Loew (Insect Pest Survey Bulletin, Vol. XII, No. 4, p. 157) the subheading California should read Texas.

717 adults were taken in the traps during the month in Texas and 94 adults were taken in Matamoros, Mex. .

GREEN CITRUS APHID (Aphis spiraeicola Patch)

Florida

J. R. Watson (May 24): A. spiraeicola is very abundant from Lake City south, but numbers are rapidly declining.

MELON APHID (Aphis gossypii Glov.)

California

E. A. McGregor (June): Present in greater than normal number on citrus this spring.

ORANGE THRIPS (Scirtothrips citri Moul.)

California

E. A. McGregor (June): The infestation has been one of the severest on record. Four generations had developed up to June 16, and the injury to citrus fruits in unprotected or improperly treated orchards has been very great.

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

Alabama

H. P. Loding (June 13): At present and for the last two weeks Fuller's rose beetle has been extremely abundant in Satsuma orange groves at Mobile and doing considerable damage, especially to young trees, which in some cases are nearly defoliated.

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

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi

P. D. Sanders (May 27): Adults were very abundant under loose bark on pine rails, slabs and logs in Attala County near Kosciusko.

California

S. Lockwood (June 21): Reported from Humboldt County.

IMBRICATED SNOUT BEETLE (Epicaerus imbricatus Say)

Virginia

C. B. Lanford (May 12): Specimens of weevils collected May 12. These insects were said to be doing considerable damage to tomato plants.

Tennessee

G. M. Bentley (June 22): The imbricated snout beetle has been reported on onions in Knox County.

BLISTER BEETLES (Moloidae)

North Carolina

C. H. Brannon (June 20): Epicauta vittata Fab. has made its appearance in large numbers on soy beans in Beaufort County.

North Dakota

J. A. Munro (June 18): E. pennsylvanica DeG. has been reported from several of the eastern counties of the State. It was reported as destructive to caragana hedges and potatoes. (June 20): It seems to be widely distributed over the country and is feeding ravenously on sweet clover, alfalfa, caragana, and other crops.

North Dakota

H. C. Seferin (June 14): Blister beetles are doing considerable damage this year. Because of the serious grasshopper outbreaks of last year, blister beetles are exceptionally abundant.

Tennessee

G. M. Bentley (June 22): E. vittata is moderately abundant in Knox County on morning-glory, sweet peas, and okra.

Alabama

J. M. Robinson (June 20): Blister beetles are very abundant on Irish potatoes at Vernon.

Mississippi

C. Lyle (June 23): Macrobasis unicolor Kby. was received from a correspondent at Steens, on June 7, with a report that Irish potato plants had been severely injured. Medium injury to tomatoes by E. lemniscata Fab. was reported from Highlandale, on June 14.

FLEA BEETLES (Halticinae)

Massachusetts

A. I. Bourne (June 24): Flea beetles have been generally very abundant on practically all the garden plants which they normally attack.

New York

P. J. Parrott (May 23): Phyllotreta vittata Fab. is very abundant.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

California

E. O. Essig (June 6): D. soror is unusually abundant. Adults feeding upon the leaves, particularly near the tops of the plants. Not a serious pest, however, to the very rapidly growing alfalfa, in Yernalis.

E. A. McGregor (June): The western cucumber beetle (D. soror Lec.) seems to have been unusually abundant in citrus orchards in central California the present season. It has caused considerable perforation of foliage and a limited amount of injury to small green oranges to date. It was also observed to be rather severely attacking citrus foliage last year in Ventura County.

ROUGH STRAWBERRY ROOT WEEVIL (Brachyrhinus rugosostriatus Goeze)

Georgia

T. O'Neill (June 16): This is the first record we have of the occurrence of B. rugosostriatus in Georgia. Several adults received with reports of invading a residence at Marietta.

A WEEVIL (Aphrastus taeniatus Gyll.)

Georgia

T. O'Neill (May 27): Specimens were collected at Flowery Branch with a report of damage to field beans and corn foliage.

A WEEVIL (Phytonomus rumicis L.)

Connecticut

M. P. Zappe (June 18): Larvae very abundant, feeding on leaves and blossoms of sorrel grown for seed at Milford. A few adults present, eggs laid inside of stems. About 7 acres infested. Insect first taken in corn in Greenwich June, 1928. One specimen at Darien May 21, 1930. Adults rather abundant on dock. (See Ent. News 34: 280, 1923. L.L. Buchanan.)

SUGAR BEET THRIPS (Heliothrips femoralis Heeger)

Ohio

E. W. Mendenhall (May 27): The sugar beet thrips was quite bad on several species of Sedum, Kalanchoe flammea, Crassula arborescens, and Mesembryanthemum aequilifolium in the green-houses in Urbana. We find considerable damage to the succulent plants under glass. These plants were so bad that they had to be destroyed.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Maine

C. R. Phipps (June 25): The seed corn maggot is present in very destructive numbers in bean fields in central Maine. It is causing quite a loss to cucumber producers in Cumberland County.

Maryland

E. N. Cory (June 22): Seed corn maggot very abundant.

Illinois

J. H. Bigger (June 17): The seed corn maggot is very abundant in western Illinois; 50 per cent of the adults out May 27.

Michigan

R. H. Pettit (June 22): Seed corn maggot very abundant.

Wisconsin

C. L. Fluke (June 24): The seed corn maggot is very abundant, ruining corn and beans in many fields over most of the State.

Kentucky

W. A. Price (May 26): The seed corn maggot has been generally prevalent over the State, doing conspicuous damage in Bourbon and Fayette Counties.

South Dakota

H. C. Severin (June 14): Damage is especially severe in weakly germinating corn in isolated areas over South Dakota.

Nebraska

M. H. Swenk (April 20 to June 1): During the third week in May the seed corn maggot caused damage to planted corn in Cuming County, near West Point.

SPITTLE BUGS (Cercopidae)

Oregon

D. C. Mote (May 23): Spittle bugs, Aphrophora permutata Uhler and P. spumarius Fall., still immature. In sections of Willamette Valley unusually heavy infestations on all forage, truck, garden, small fruit crops, and ornamentals. (W.D. Edwards.)

FALSE TARNISHED PLANT BUG (Lygus invitus Say)

Florida

J. R. Watson (June 25): We have had unusually large numbers of complaints during the past few weeks. The insect seems to be injuring a large number of vegetable crops, including tomatoes, mustards, turnips, collards, etc., cowpeas, and young citrus trees and we have reports covering practically the whole of the peninsular part of the State.

A SNAIL (Helix pisana Muller)

California

Monthly News Letter, Los Angeles Co. Agr. Comm. (May 28): A serious snail pest, H. pisana, was recently discovered on a ranch located partly in Los Angeles County and partly in Orange County. Subsequent surveys showed infestations to involve about 500 acres, including some Japanese truck gardens. Later surveys showed one more ranch infested in the Downey district and another near Artesia.

H. pisana was first found in San Diego County in 1919 in the La Jolla district. This was the first and only other infestation of its kind found in the United States. The infestation was extremely heavy in some places and in one instance 800 snails were counted on a single wild buckwheat plant less than 2 feet in diameter and about 18 inches high.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Connecticut

N. Turner (June 20): Unusually abundant in the southern part of the State.

New York

N. Y. State Coll. Agr., Weekly News Letter (June): Appeared late in May and egg laying was well under way in the western part of the State during the first week in June. (Abstract, J.A.H.)

Delaware

L. A. Stearns (June 23): Abundant and causing considerable injury.

New Jersey

T. J. Headlee, H. C. Nissley, and R. C. Burdette (June): Abundant throughout the State on potatoes and less so on tomato and eggplant.

- Pennsylvania J. N. Knull (June): This beetle is very abundant in Franklin County.
- Maryland E. N. Cory (June 22): Colorado potato beetles are very abundant.
- Florida J. R. Watson (May 24): Increasing in numbers in main potato sections in northern Florida. (June 24): Very abundant and doing much damage to eggplant in Alachua County.
- Michigan R. H. Pettit (June 22): Very abundant.
- Wisconsin C. L. Fluke (June 24): More abundant than for several years.
- Iowa C. J. Drake (June 22): Very abundant and may be found in almost any potato patch in Iowa.
- North Dakota J. A. Munro (June 18): Unusually abundant.
- Nebraska M. H. Srenk (June 1): Very abundant.
- Mississippi C. Lyle and assistants (June): Very abundant.

THREE-LINED POTATO BEETLE (Lema trilineata Oliv.)

- Connecticut N. Turner (June 6): Much more abundant than usual in the southern part of the State.

A TORTOISE BEETLE (Deloyala clavata Fab.)

- Connecticut N. Turner (June 6): Unusually abundant this year on Irish potatoes at Cheshire.

HORNWORMS (Phlegethontius spp.)

- New Jersey T. J. Headlee, C. H. Nissley, and R. C. Burdette (June): P. quinquemaculata Haw. was found in Cumberland, Salem, Gloucester and Camden Counties. Eggs were found in all four counties and newly hatched larvae in Cumberland, Salem, and Gloucester Counties. This infestation is apparently general on tomatoes.

- Georgia O. I. Snapp (June 9): Hornworms (P. sexta Johan.) are more abundant than usual. and have caused considerable damage to tomato plants in Fort Valley gardens.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

- Connecticut A. E. Wilkinson (June 18): Flea beetles are causing damage to potatoes, many holes in leaves, 25 to 50 beetles per plant.
- New Jersey T. J. Headlee and H. C. Nissley (June 9): Flea beetles were found abundantly throughout the State on potatoes and less abundantly on tomato and eggplant.

io T. H. Parks (June 15): Potato flea beetles have been much more injurious than usual this year.

chigan R. Hutson (June 11): Flea beetles are extremely numerous on tomatoes at Williamston and Lake Odessa, and on potatoes at Springport and Fennville.

North Dakota J. A. Munro (June 18): Recent observations indicate that they are prevalent over a large area of the potato-growing section of the State.

South Dakota H. C. Severin (June 14): More than average abundance.

Iowa C. J. Drake (June 22): The potato flea beetle is very abundant.

POTATO APHID (Illinoia solanifolii Ashm.)

Virginia H. G. Walker (June 27): A very severe outbreak of the pink and green potato aphid occurred about two weeks ago; and severe damage, especially to tomatoes in the Norfolk and Portsmouth area and on the Eastern Shore of Virginia, has occurred.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Illinois L. H. Shropshire (June 23): Potato leafhoppers are very abundant in Cook County. They appeared on June 8 to 12.

Missouri L. Haseman (June 20): Potato leafhoppers in central Missouri June 15; considerable tip burn from hoppers on potatoes.

TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

th G. F. Knowlton (June 15): The potato psyllid was found to have matured one generation on tomato in the field under "white caps," and deposited eggs by June 11 at Farmington. Adults and eggs were moderately abundant upon potatoes at the same time.

EGGPLANT

EGGPLANT LACEBUG (Gargaphia solani Heid.)

Jersey T. J. Headlee, H. C. Nissley, and R. C. Burdette (June 21): Found less numerous, probably owing to the heavy rains. In the Swedesboro section of Gloucester County half-grown young lacebugs were found on eggplant and eggs of this insect were hatching in Burlington County.

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Indiana J. J. Davis (June 27): The eggplant flea beetle was very destructive to recently set eggplants at Lafayette June 10.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

- Rhode Island A. E. Stene (June 23): Mexican bean beetles are abundant throughout the State.
- Massachusetts A. I. Bourne (June 24): Large numbers of beetles appeared in newly planted fields soon after the plants appeared above ground. In some cases serious injury to foliage has already taken place. At the present time the eggs have just begun to hatch. The insect has established itself throughout the three counties in the Connecticut Valley and to some extent throughout the southern and southeastern parts of the State.
- Connecticut N. Turner (June 20): Beetles came out of hibernation starting May 24. Eggs appeared June 6 in the southern part of the State, and hatched June 16. Beetles were still coming out of hibernation June 16. The infestation is very heavy in the southern part of the State, but apparently lighter in northern Connecticut.
- New York P. J. Chapman (June 23): Mexican bean beetles are very abundant in the Hudson River Valley. Mostly troublesome in garden patches.
- New Jersey T. J. Headlee, R. C. Burdette, and C. H. Nissley (June): Very abundant throughout the State. Oviposition was observed in the southern part of the State on the 7th, 8th, and 9th. On the 13th and 14th larvae were observed, and by the 21st they were nearly full grown in the southern part of the State.
- Delaware L. A. Stearns (June 23): Emergence commenced April 19 and was at the peak about June 7. Fifty per cent survival in hibernation cage. Young beans with abundance of adults and eggs June 16.
- Maryland J. A. Hyslop (June 25): More abundant near Silver Spring than it has been during the last few years.
- West Virginia L. M. Peairs (June 23): The Mexican bean beetle is moderately to very abundant at Morgantown. Getting a good start.
- Virginia C. R. Willey (June 25): The Mexican bean beetles are very abundant at Richmond, Henrico County, and in adjoining counties.
- North Carolina C. H. Brannon (June 16): Severe damage is appearing much earlier than usual in many localities.
- South Carolina A. Lutken (June 24): Mexican bean beetles are very abundant.
- Georgia W. H. Clarke (June 22): A few plants of lima beans found infested in a 4-acre field at Louisville; full-grown larvae

present. At Thomaston a full-grown larva was submitted by a farmer; serious damage is being done to string beans and slight damage to lima beans.

- Ohio T. H. Parks (June 25): The beetle is very abundant. The first generation is injuring beans in northern Ohio.
- Indiana J. J. Davis (June 27): Apparently more abundant than usual; damage in northern Indiana is being reported. The first report was received from Sunman May 28, but most of the reports came in after June 6.
- Illinois S. C. Chandler (June): Mexican bean beetle first found in southern Illinois on June 6 at Albion, Edwards County; infestations also found at Lawrenceville, and Mt. Carmel.
- Kentucky G. Myers (June 25): The Mexican bean beetle is appearing in unusual numbers on beans near Buffalo and Mt. Sherman, Larue County, and southward in Green County.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

- Southern States P. D. Sanders (April, May, and June): This insect was reported to be more injurious to beans than normal by the following: C. O. Hopkins in Louisiana, C. Lyle in Mississippi, A. Lutken in South Carolina, and A. G. Amstein in Arkansas.
- Virginia C. R. Willey (June 25): The bean leaf beetle is very abundant at Richmond, Henrico County, and in adjoining counties.
- Ohio T. H. Parks (June 3): Considerable injury has been caused by beetles feeding on bean leaves. Injury is confined to southern counties.
- Alabama K. L. Cockerham (May 25): The bean leaf beetle was plentiful at Foley on snap beans.

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

- Alabama K. L. Cockerham (May 25): The cowpea pod weevil is very seriously damaging snap beans in our experimental plots at Foley. Nearly every blossom, bud, or young bean had at least one weevil on it.

BEAN APHID (Aphis rumicis L.)

- New Jersey T. J. Headlee, C. N. Nissley, and R. C. Burdette (June 14): The bean aphid has been found in large numbers on Fava beans in Monmouth County.

PEAS

PEA APHID (Illinoia pisi Kalt.)

- Ohio T. H. Parks (June 20): Peas being grown for canning factories are quite seriously attacked in Pickaway County. Predacious larvae of ladybugs are quite abundant.
- Michigan R. H. Pettit (June 17): The pea aphid is on the rampage in Michigan. It has already destroyed part of the crop in Tuscola, Saginaw, Bay, Midland, Gratiot, Kent, and Newaygo Counties and points north. Entomophthora is taking its toll of the lice.

CABBAGE

A CABBAGE BUTTERFLY (Pieris monuste L.)

- Florida H. T. Fernald (June 22): The migratory flight southward of the large cabbage butterfly which I noted in April and May shows no signs of appearance this year until about June 10 and is now in full progress along the Indian River as far as Melbourne. I have not been along the river north of Indian River City or south of Melbourne to see how much farther it goes. Fifty or more of the butterflies in sight at once, all working their way south, is an interesting sight.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

- New Jersey T. J. Headlee, C. H. Nissley, and R. C. Furdette (June 14): The diamond-back cabbage moth was found in Gloucester, Camden, and Monmouth Counties. (June 21): The caterpillars found in Camden County have largely gone to pupation.

HARLEQUIN BUG (Murgantia histrionica Hahn)

- Ohio T. H. Parks (June 3): This insect, which is not usually troublesome, is causing some injury in Lawrence and Scioto Counties.
- Kentucky W. A. Price (June 25): The harlequin bug continues abundant and a source of damage to cabbage in several sections of the State.
- Tennessee G. M. Bentley (June 22): The harlequin bug is moderately abundant. Reported on cabbage, turnip, nasturtium, and mustard.
- Alabama J. M. Robinson (June 20): Very abundant probably all over the State.
- Oklahoma C. F. Stiles (June 21): Reported quite numerous in central Oklahoma.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Connecticut D. S. Lacroix (June 3): Very abundant on cabbage and cauliflower at Windsor.

New York N. Y. State Coll. Agr., Weekly News Letter (June): Quite generally prevalent throughout the western part of the State and did considerable damage during the first half of the month. (Abstract, J.A.H.)

CABBAGE APHID (Brevicoryne brassicae L.)

Illinois L. H. Shropshire (June 23): Very abundant and causing severe damage on early cabbage grown from plants secured outside the State.

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Massachusetts A. I. Bourne (June 24): They were somewhat late in appearing but they appear to be more abundant than usual.

Virginia C. R. Willey (June 25): The striped cucumber beetle is very abundant in Richmond, Henrico County, and in adjoining counties. It is apparently taking a heavy toll.

New Jersey T. J. Headlee, C. H. Nissley, and R. C. Burdette (June 9): Striped cucumber beetles were generally present throughout the State on young melon, cucumber, and squash. (June 21): It was slightly less numerous than last week.

Illinois L. H. Shropshire (June 23): Very abundant in Cook County, where they have completely destroyed large plantings of cucumbers.

Michigan R. H. Pettit (June 22): Very abundant.

North Dakota J. A. Munro (June 18): Very abundant at Fargo.

South Dakota H. C. Severin (June 14): More abundant than usual on cucumbers over the State.

Oklahoma C. F. Stiles (June 21): Still quite numerous throughout the greater part of the State.

SQUASH BUG (Epilachna borealis Fab.)

Mississippi K. L. Cockerham (May 23): On May 23 two specimens were collected on cantaloupes at Biloxi. These are the only specimens seen or collected by me in this vicinity in over three years.

MELON APHID (Aphis gossypii Glov.)

Iowa C. J. Drake (June 22): Extremely abundant upon melons and cucumbers. A canning company plans to purchase a sprayer or duster for practically every farmer who is growing cucumbers for it under contract.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Georgia O. I. Snapp (June 10): Apparently the insect is more abundant than usual south of Macon. Heavy infestations were observed at Fort Valley and Macon.

W. H. Clarke (June 22): Squash bugs destroyed squash in a garden at Thomaston. Half-grown nymphs present in large number.

Indiana J. J. Davis (June 27): The squash bug is abundant at Perrysville.

Illinois L. H. Shropshire (June 23): Overwintering adults are very abundant in the fields all over Cook County. No oviposition has occurred up to June 18.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

New Jersey T. J. Headlee, C. H. Nissley, and R. C. Burdette (June 9): Onion thrips were found throughout the State mainly upon onions but to some extent upon cabbages, where they stood adjacent to heavily infested onion fields. The attack on the early onion in southern New Jersey has already accomplished a large share of the damage it will do, because through the agency of thrips and dry weather the older onions have received a setback from which they will not recover in any considerable degree.

Indiana J. J. Davis (June 27): Onion thrips began to show up in threatening numbers in many sections of northern Indiana early in June. However, serious damage has not yet developed but is anticipated in some sections.

Illinois L. H. Shropshire (June 23): Onion thrips are multiplying rapidly. Commercial damage to onions will occur within a short time if weather continues hot and dry.

Tennessee G. M. Bentley (June 22): Onion thrips are moderately abundant on roses in Knox County.

California

S. Lockwood (June 21): The thrips is more numerous than usual; considerable damage may result to onions in the Delta region of Sacramento and San Joaquin Valley, 50 to 60 thrips per onion plant being commonly observed.

SWEETPOTATO

GOLDEN TORTOISE BEETLE (Metriona bicolor Fab.)

New Jersey

T. J. Headlee, R. C. Burdette, and C. H. Nissley (June): During the second week in the month these insects (Cassida sp.) were present in large numbers on sweetpotato in Burlington, Camden, and Gloucester Counties and in smaller numbers in Atlantic and Cumberland Counties. By the 21st of the month they were apparently less numerous.

Maryland

J. Westrod (June 7): Specimens of M. bicolor forwarded. Eating holes in leaves of sweetpotato plants. at Sudlerville.

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis Crotch)

Mississippi

C. Lyle (June 23): Reported quite abundant on sweetpotato plants at Oxford on June 2.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancyliis comptana Froel.)

Delaware

L. A. Stearns (June 25): Somewhat more abundant than at this date in 1929, 1930, and 1931.

New York

N. Y. State Coll. Agr., Weekly News Letter (May 31): The strawberry leaf roller is developing rapidly in one planting of strawberries in Chautauqua County, the plants of which were secured from outside the State. It is the only planting in the county where any damage is being done. It is now in all stages of development. Very few larvae have yet pupated.

Ohio

T. H. Parks (June 25): This insect has been reported as very injurious to strawberry beds on farms near Circleville and Paulding.

Nebraska

M. H. Swenk (June 20): On June 10, 11, and 12 several correspondents reported serious damage to strawberry plants. These reports came from Cuming and Madison Counties west to Thomas County and south to Hall County.

SUGAR BEETS

BEEF WEBWORM(Loxostege sticticalis L.)

- North Dakota J. A. Munro (June 18): According to reports adults are distributed generally over a large portion of the State but are most abundant in the northwestern group of counties, including Williams, Divide, Burke, Bottineau, Ward, McLean, and Rolette.
- South Dakota H. C. Severin (June 14): An enormous flight of moths occurred in South Dakota during May. No serious reports of damage as yet.
- Montana A. L. Strand (June 21): Moths are present in tremendous numbers over practically the entire State. Serious damage to alfalfa, field peas, gardens, and sugar beets is expected unless adequate control measures are used.
- Wyoming A. G. Stephens (June 24): Webworms are moderately abundant in the northeastern and central part of Wyoming.

BEEF LEAFHOPPER (Eutettix tenellus Bak.)

- Utah G. F. Knowlton (June 20): Beet leafhoppers are moderately abundant throughout northern Utah.
- California A. E. Michelbacher (June 20): Was told that there has been a considerable increase in the amount of curly top over that present a month ago around Clarksburg.

SPRING TAILS (Collenbola)

- Utah G. F. Knowlton (May 9): Specimens were collected May 5 and 9, respectively, by G. F. Knowlton at Logan and Elwood where they were said to be damaging young seedling sugar beets. These are Onychiurus armatus Tull. See Proc. U.S.N.M. 53: 644. Pseudosineviolenta Fols. See Amer. Mus. Novitates, No. 108, (Det. J. W. Folsom.)

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

COTTON

PINK BOLL WORM (Pectinophora gossypiella Saund.)

- Florida U. S. D. A., Press Service, Office of Information (June 14): This insect was found in a small patch of not more than 2 acres of cultivated cotton near Miami and in wild cotton in a district extending from south of Miami to Key West.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Florida F. S. Chamberlin (June 3): Flea beetles, mainly second-brood individuals, are considerably more abundant than usual in Gadsden and Madison Counties.

Kentucky W. A. Price (May 26): Flea beetles have been serious in tobacco beds at Lexington, Paducah, Nicholasville, Georgetown, and Shelbyville.

Tennessee G. M. Bentley (June 22): The tobacco flea beetle is moderately abundant.

POTATO STALK BORER (Trichobaris trinotata Say)

North Carolina C. H. Brannon (June 15): This species is very seriously damaging tobacco near Richland, Onslow County, by eating into the midrib of the leaves. H. S. Barber, who identified the species, advises me that it has not heretofore been known to injure the tobacco plants, but usually attacks potato and horse nettle.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

North Carolina C. H. Brannon (June 15): This species is feeding on tobacco leaves all over the State, causing serious damage in some sections.

TOBACCO BUDWORMS (Heliothis spp.)

North Carolina C. H. Brannon (June): Damage by H. obsoleta Fab. is evidently unusually severe in practically all eastern counties.

Florida F. S. Chamberlin (June 4): H. virescens Fab. appears to be about normally abundant on tobacco so far this season in Gadsden County.

POTATO TUBER WORM (Gnorimoschema operculella Zell.)

Florida F. S. Chamberlin (June 23): A very light infestation is occurring in the Gadsden County tobacco district.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida F. S. Chamberlin (June 16): Recent heavy rains have cut down the population on tobacco in Gadsden County and have eliminated the possibility of damage this season.

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

P E R I O D I C A L C I C A D A (Magicalicada septendecim L.)

- Connecticut M. P. Zappe (June): Heard the adults and captured one in North Branford.
- Pennsylvania J. N. Knull (May 30): The first periodical cicadas were observed in Franklin County: Mont Alto, May 30, Pond Bank, June 1, Rouzerville, June 4, Warren Township, June 6, Horse Valley, June 10. Adams County: May 31, Cold Springs, June 9. Lycoming County: Loyalsock, June 5. Juniata County: Susquehanna Township, June 10, Turbett Township, June 15, Fayette Township, June 16.
- Maryland R. A. Kemp (June 6): In evidence for about 10 days, a few scattered specimens near Frederick, but more numerous in the Catoctin Mountains, about 5 miles west of Frederick. The brood is evidently small.
- W. H. Larrimer (May 30): A few periodical cicadas heard and some pupal cases found at 3304 Rittenhouse Street, Chevy Chase.
- H. C. Skeels (June 2): Found on Holly Avenue in Takoma Park.
- F. W. Mills (June 1): Specimens and examples of their destructive effects on some apple trees at 15 North Melrose Street, Chevy Chase.
- J. J. A. Hyslop (June 27): In digging in the ground, found many pupae, evidently of Brood X and two fourth instar larvae (15 mm long), evidently of Brood XIV.
- North Carolina R. W. Leiby (June 8): The periodical cicada is appearing in Burke, Henderson, Buncombe, and Macon Counties according to reports. Its appearance was first observed between May 20 and 25.
- Z. P. Metcalf (June 22): Appearance of the 17-year locust has been reported generally in Burke and McDowell Counties.
- South Carolina J. A. Berly (June 21): The insects were found in portions of Oconee, Pickens, and Greenville Counties. In all cases they were confined to the foothills. In Oconee County we were able to go to the State line in five places, and in each case the cicadas occurred across the river on the Georgia side.
- Georgia C. H. Alden (June 21): Very abundant at Tiger, Rabun County. Heavy emergence in wooded areas from May 20 to June 10. Some damage done to young apple trees.

W. H. Clarke (May 30): Berly and Sherman of Clemson College reported finding a single specimen in Stephens County. (June 23): Five specimens taken on Pine Mountain, Pike County, today. Present in moderate numbers.

Indiana J. J. Davis (June 27): The 17-year cicada was reported from Ashley June 1. It was abundant the first half of June in vicinity of Bedford.

Illinois W. P. Flint (June 15): First collection made in Vermilion County on May 29. Appeared in small numbers in Morgan and Mason Counties June 13.

Wisconsin C. L. Fluke (June 24): Have had only two reports on the periodical cicada so far, one from Door County, and one from Vernon County.

Oklahoma C. E. Sanborn (June 14): Mr. P. W. Oman, according to H. Morrison, of the U.S.D.A., has identified the species as Magicicada cassini Fisch. This is often determined as Magicicada septendecim cassini Fisch. Mr. Oman's present opinion is that it should stand as a distinct species. Payne County, May 31. G. A. Bieberdorf Coll.

CANKER WORMS (Geometridae)

New England E. P. Felt (June 24): The fall canker worm, Alsophila pommataria Harr., has been exceptionally abundant in southwestern New England, defoliating individual trees and groups of trees, particularly apple and elm.

Mont H. L. Bailey (June 25): Fall canker worms were plentiful on elms at St. Johnsbury, June 8. Have also been reported from vicinity of Burlington. No complete defoliation observed. Feeding by larvae continued till third week in June.

Wisconsin F. C. Craighead (June 22): A letter from Goodman, June, 1932, reads: "A leaf eater or small green worm is attacking the better stands of maple this season. Where the leaf eaters are most prevalent the leaves on full-aged trees are 50 to 75 per cent consumed, the upper leaves of saplings are in like condition, and leaves on lower branches are all eaten. The leaves on seedlings are eaten right back to the stems. The leaf eater was at work in milder form in the early summer of 1931 in the Sawyer timber. The growth of the infested trees will be retarded this year."

(Report made by Mr. Flanders of Oconto June 4): "A small green worm has appeared in the hardwood timber at Oconto and is rapidly denuding many maple trees, leaving no foliage whatever. The foliage on several acres has been destroyed in various spots several miles apart. These worms also appear on other hardwood timber, but especially on the maple." (Det. as Paleacrita vernata Peck by description of injury.)

North Dakota

J. A. Munro (June 18): Cankervorm injury is general throughout the Red River Valley. F. D. Butcher, Federal Entomologist, following a recent trip, reports that he saw cankerworm injury all the way from Fargo to Pembina.

SATIS MOTH (Stilpnotia salicis L.)

Maine

C. R. Phipps (June 25): The satis moth has become increasingly destructive in the region of Orono, Bangor, and Old Town this year. Most of the caterpillars are full grown. Many poplar trees have been cut down in this section during the past two weeks (June 20).

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Maine

C. R. Phipps (June 25): Forest tent caterpillars are unusually abundant.

H. B. Peirson (June): A slight infestation of the forest tent caterpillar was reported June 14 in Jim Pond Township. One of the heaviest outbreaks we have ever seen has been reported from Township No. 8, Hancock County. Complete defoliation of poplars and white birch over a large area. Highway literally swarming with migrating larvae.

GYPSY MOTH (Porthetria dispar L.)

United States

Plant Quarantine & Control Administration, News Letter No. 18 (June 1): Between the last part of April and early June, gipsy moth egg clusters usually hatch in New England. The first hatch this year was observed on May 2 at Melrose and Burlington, Mass. and Vernon, Vt. Since then hatching has been noticed in several other localities. The intensive survey of the northern half of Bridgewater and the southern half of Hillsboro Townships, Somerset County, N. J., was completed during April. A total of 7,042 acres of woodland was scouted and no infestation found.

Maine

H. B. Peirson (June): Gipsy moth very abundant in June in lower half of State.

ASH

AN ASH SAWFLY (Tomostethus bardus Say)

Rhode Island

E. P. Felt (June 24): An ash sawfly, probably T. bardus, was reported by W. G. Aborn as very abundant and defoliating ash trees at Providence.

ASH BORER (Podosesia fraxini Lugger)

South Dakota

H. C. Severin (June 14): Abundant and more so than normal. Damage severe, generally.

BIRCH

BIRCH CASE BEARER (Coleophora salmani Hein.)

H. B. Peirson (June): The birch case bearer was observed June 20 in Bar Harbor. Very heavy defoliation. This insect is spreading quite rapidly.

E. P. Felt (June 24): Birch case bearer work was received from Lebanon, N. H., through A. W. Dodge of Boston, Mass. This appears to be the first record of this insect at any distance from Bar Harbor, Maine.

BIRCH LEAF MINER (Femusa pumila Klug)

H. B. Peirson (June 9): A leaf miner which has been very abundant in the State for several years, is just beginning to become noticeable in China, Kennebec County.

R. B. Friend (June 24): As abundant as usual throughout the State.

CYPRESS

CYPRESS LEAF MINER (Recurvaria apictripunctella Clem.)

E. P. Felt (June 24): The cypress leaf miner has been abundant upon individual bald cypress in southwestern New England and southeastern New York, the miners being so numerous as practically to prevent the development of foliage.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

H. B. Peirson (June): The elm leaf beetle was reported June 13 at Skowhegan; slight feeding.

J. V. Schaffner, jr., (June 17): Adults are very abundant at Danvers and feeding is very noticeable on 50 to 100 shade trees.

R. D. Glasgow (June 14): Eggs were found at Garden City, Long Island on June 4; they were found today at Albany.

W. A. Price (May 26): The elm leaf beetle is present in numbers at Nicholasville and Lexington.

A BARK BEETLE (Scolytus multistriatus Marsh.)

E. P. Felt (June 24): The European elm bark beetle was reported as generally infesting a sickly elm at Tarrytown.

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

- Maine H. B. Peirson (June): Observed to be common June 16 in Augusta and Westbrook.
- Rhode Island A. E. Stone (June 23): Has been sent in from nearly all sections of the State with the report that it is unusually abundant.
- Pennsylvania J. N. Knull (June 3): Numerous elm trees in Franklin County have been defoliated.

WOOLLY ELM APHID (Eriosoma americanum Riley)

- Maine H. B. Peirson (June): The elm aphid was observed June 20 very abundant through the State.
- Nebraska M. H. Swenk (June 1 to 20): Many complaints have been received, especially since June 10, from Phelps, Polk, and Custer Counties, west to southern Sheridan and Scotts Bluff Counties, a region where these trees are especially valuable.

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

- New York E. P. Felt (June 24): The elm cockscomb gall was reported from Westbury, Long Island.
- Indiana J. J. Davis (June 27): The elm cockscomb gall was reported abundant during the past month at Brookville, Lowell, and South Bend.
- Nebraska M. H. Swenk (June 1 to 20): From Holt County west to Sheridan, Scotts Bluff, and Perkins Counties, are being received numerous reports of the deforming of elm leaves.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

- Maine H. B. Peirson (June): European elm scale observed June 20 at Augusta; locally abundant.
- Connecticut W. E. Britton (June 23): Present in usual abundance on young trees.

ELM LEAF MINER (Kaliosysphinga ulmi Sund.)

- New York E. P. Felt (June 24): Locally very abundant at Brewster and Oyster Bay. In the former case the leaves appeared at a distance as though they had been destroyed by fire.

FIR

BALSAM TWIG APHID (Mindarus abietinus Koch.)

Maine

H. B. Peirson (June): Balsam twig aphid observed quite abundant curling needles June 8 at Strong.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Maine

H. B. Peirson (June): Pine leaf scale observed May 30 at Bar Harbor. Quite abundant on fir foliage. Probably a new record for this host.

AN APHID (Dreyfusia piceae Ratz.)

Maine

H. B. Peirson (June): Fir bark louse very abundant in June along the coast of Maine. Large amounts of fir being killed.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

New England

J. V. Schaffner, jr. (June 17): Observations made and reports received from various sources during May and June indicate a general infestation wherever larch occurs in New England.

Maine

C. R. Phipps (June 25): This pest was very abundant during the season of 1931 with the result that most of the larch trees in the State were turned brown in June. This condition is being repeated this season although some of the browning has been occasioned by late frosts.

Vermont

H. L. Bailey (June 25): The larch case bearer appears to have been more abundant than ever before throughout all parts of the State. A high percentage of the native larch trees were almost completely defoliated. New foliage was starting on many of them June 23.

New York

R. D. Glasgow (June 14): The larch case bearer is very abundant throughout eastern and northern New York. Adults were observed in Westchester County on the 8th, and in Warren County on the 12th. In northern New York this insect appears to have become active as soon as the buds opened, the foliage throughout large areas having been destroyed before it had attained any considerable length. A very large proportion of the tamarack in northeastern New York is now entirely brown. This insect has caused serious and progressively increasing damage to larch in northern New York during the past 5 years. Many tamarack trees have already died as a result of repeated defoliation by this insect.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

Ohio E. W. Mendenhall (June 15): The locust borer is very bad in Columbus on ornamental locust trees planted on private properties.

LOCUST LEAF MIDGE (Obolodiplosis robiniae Hald.)

New York E. P. Felt (June 24): The locust leaf midge was reported as generally infesting honey locust near Farmingdale, Long Island.

A TREEHOPPER (Vanduzee arcuata Say)

Pennsylvania J. N. Knull (June 10): This membracid is very abundant on black locust in Horse Valley, Franklin County. The adults and nymphs are attended by the red mound-building ants (Formica exsectoides Forel).

MAPLE

MAPLE LEAF STEM BORER (Priophorus acericaulis MacG.)

Connecticut W. E. Britton (June 23): Seemingly more abundant than for several years.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Ohio E. W. Mendenhall (June 8): Injury extremely severe on soft maple trees on State and Center Streets in Springfield, and Greenville. They are so abundant that the undersides of the limbs are white with this cottony substance and the leaves wet with their secretions. The twigs and larger limbs are dying.

MAPLE NEPTICULA (Nepticula sericopeza Zell.)

New England and New York E. P. Felt (June 24): The maple Nepticula is breeding in large numbers in the seeds of Norway maple in southwestern New England and southeastern New York north at least to Poughkeepsie.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Massachusetts J. V. Schaffner, jr. (June 18): In eastern Massachusetts the severe infestations still persist. Most of the infestations are in ornamental plantings of Austrian, red, Scotch, and Mugho pines. Moths began issuing in the laboratory on June 10.

Connecticut

R. B. Friend (June 24): The insect is in flight and appears as abundant as last year. Adults have been reared from western yellow pine collected in a nursery near New Haven.

New York

R. D. Glasgow (June 14): The moth has become increasingly destructive to pines, particularly to Pinus resinosa and P. ponderosa, in some parts of southeastern New York. This insect is a serious pest also of P. montana var. mughus, to P. sylvestris, and to P. nigra, and occurs on other species of pine as well. It has been reported by inspectors of the State Bureau of Plant Industry and by scouts of the State Conservation Department from many parts of the State. It is reported to be particularly well established also in Niagara County.

A TIP MOTH (Evetria albicapitana Busck)

Vermont

H. L. Bailey (June 25): Adults were found in considerable number about a large Jack pine plantation on State game preserve at Milton, June 13. The work of this species had previously been confused with that of E. constockiana Fern. in this plantation and probably elsewhere in the State.

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Mine

H. B. Peirson (June): The white-pine weevil was reported June 21 at Augusta as very abundant. Tops of weeviled trees just wilting.

SPRUCE SAWFLY (Neodiprion abietis Harr.)

Mine

H. B. Peirson (June): The spruce sawfly was observed at Alfred June 14 defoliating pitch pine.

PINE BARK APHID (Pineus strobi Htg.)

Cio

E. W. Mendenhall (June 22): Pine bark aphids (Chermes pini-corticis Fitch) were found quite bad on Austrian pine in a nursery near Springfield.

A GALL MITE (Eriophyes pini Nol.)

New York

R. D. Glasgow (June 14): Mite gall specimens, possibly the work of the European pine mite, have been received from western New York, where they were collected from young Scotch pine trees that are said to have been shipped into the State 4 or 5 years ago from a nursery in the Middle West.

POPLAR

COTTONWOOD LEAF BEETLE (Chrysomela scripta Fab.)

Maine H. B. Peirson (June): Reported June 14 in Jim Pond Township quite heavily feeding in large stand of poplars.

SPRUCE

SPRUCE NEEDLE MINER (Epinotia nanana Treit.)

Maine H. B. Peirson (June): The spruce webworm was reported June 3 as quite general along the coast. Reports from inland cities are also being received.

J. V. Schaffner, jr. (June 17): Observations were made June 2 to 4 in spruce areas in Cumberland, Sagadahoc, and Lincoln Counties. Infestation is generally light, except in vicinity of Christmas Cove, where it is quite severe, with from 35 to 50 per cent of the needles brown from the mining. Many trees in a weakened condition from past infestations show an improvement this spring.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

New York and New Jersey E. P. Felt (June 24): The spruce mite is locally abundant producing copious webbing on Norway spruces in Westchester Coun N. Y., and Montclair, N. J.

Pennsylvania J. N. Knull (June 3): The red spider has been abundant on Norway and Colorado blue spruce in various parts of Franklin County.

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich

New England E. P. Felt (June 24): The willow leaf beetle is extremely abundant, defoliating groups of willows here and there in southern New England.

Connecticut W. E. Britton (June 23): Severe injury to smooth-leaf willow in some of the parks in the vicinities of New Haven and West Haven.

New York E. P. Felt (June 24): The willow leaf beetle is extremely abundant, defoliating groups of willows in southeastern New York

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

MEXICAN MEALYBUG (Phenacoccus gossypii Towns. & Ckll.)

Illinois W. P. Flint (June 15): A survey of the greenhouses in Illinois has shown that this mealybug is widely distributed over the State outside of the northeast section. While this species has been found in several greenhouses in Cook County it is not generally distributed there. It is a serious pest of chrysanthemums, geranium, and pot and bedding plants.

GREENHOUSE CENTIPEDE (Scutigera immaculata Newp.)

Illinois W. P. Flint (June 15): This pest completely destroyed sweet peas and chrysanthemum cuttings in raised benches at Des Plaines.

A THRIPS (Heliothrips femoralis Reut.)

Illinois W. P. Flint (June 15): In a recent survey of greenhouses in southern Illinois this thrips was found to be a serious pest of stevia, chrysanthemum, calla, snapdragon, and smilax. Greenhouse men have not been troubled with this thrips until recently.

A WEEVIL (Pseudocneorrhinus setosus Roelofs)

Connecticut W. E. Britton (June 8): This Japanese weevil was first collected in New Haven in 1920. More specimens were taken in 1921 and 1922. Species was identified by G. A. K. Marshall of the British Museum in 1923 (Conn. Bull. 256, p. 313, 1924). We found it feeding upon burr marigold, Bidens sp.. A hedge of California privet perhaps 50 feet in length and a row of Japanese barberry at one residence were stripped in 1931. Considerable injury has been done this season at West Haven.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Maine H. B. Peirson (June 10): The arborvitae leaf miner is very abundant throughout the greater part of the State.

New York E. P. Felt (June 24): The arborvitae leaf miner is reported as abundant in the Adirondacks about Saranac Lake.

GLADIOLI

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Michigan E. I. McDaniel (May): Specimens of this insect were collected April 15 at East Lansing.

California Monthly News Letter, Los Angeles Co. Agri. Comm. (May 28): A careful inspection of commercial gladiolus since the finding of infestations in four plantings in the County, located at three different localities: La Habra Heights, Manhattan Beach and San Gabriel. It appears from the survey that the infestation in Los Angeles County is comparatively limited.

IRIS

A CURCULIONID (Mononychus vulpeculus Fab.)

New York C. R. Crosby (June 9): Beetles of this insect were received from Canastota where they were attacking iris buds. Many specimens have also been received from Salem Center.

IRIS BORER (Macronoctua onusta Grote)

Ohio E. W. Mendenhall (May 31): The iris borer has put in its appearance again in Franklin County and in some plantings it is quite bad.

PHLOX

PHLOX BUG (Lopidea media Say)

Maryland J. A. Hyslop (June 28): Large numbers (10 to 15 to the plant) are on perennial phlox plants in my garden at Annapolis and appear to be associated with a mosaic-like disease.

PRIVET

A MITE (Tenuipalpus bioculatus McG.)

Connecticut E. P. Felt (June 24): The privet mite is generally prevalent in Greenwich and presumably in that region causing appreciable injury to some hedges.

ROSE

ROSE LEAF BEETLE (Notodonta puncticollis Say)

Maryland E. N. Cory (June 23): The rose leaf beetle is reported from over the State.

Connecticut

M. P. Zappe (June 20): Very abundant feeding on a large variety of plants in New Haven County. They appear to be more abundant than usual.

ROSE CURCULIO (Rhynchites bicolor Fab.)

Nebraska

M. H. Swenk (June 20): During the first week in June the rose curculio was troublesome on roses in Cuming County.

RASPBERRY CANE BORER (Oberca bimaculata Oliv.)

Mississippi

C. Lyle (June 23): Rose twigs showing rather severe injury which had probably been caused by O. bimaculata were received from Biloxi on June 7.

ROSE SAWFLY (Caliroa aethiops Fab.)

Ohio

E. W. Mendenhall (June 18): The rose bushes on lawns in Fairfield County are in a good many cases very badly injured.

Nebraska

M. H. Swenk (June 20): The rose slug was very troublesome on roses in eastern Nebraska during the first week in June.

Tennessee

G. M. Bentley (June 22): The rose slug is moderately abundant throughout eastern Tennessee.

BRISTLY ROSE SLUG (Cladius isomerus Nort.)

District of
Columbia

W. Middleton (June 1): Reports coming to/indicate that the bristly rose slug is quite abundant around Washington. It also seems to be accompanied by an abundance of rose aphids.

Virginia

C. R. Willey (June 25): Practically all the roses in the city of Richmond are being defoliated by the bristly rose slug.

THRIPS (Thysanoptera)

Virginia

C. R. Willey (June 1): Thrips are causing much trouble in Richmond on roses. They seem to be very numerous this spring and many rose buds have become blasted.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Connecticut

W. E. Britton (June 23): We receive frequent reports and material indicating that the roots have been eaten from Taxus by the grubs.

A SCALE (Pulvinaria sp.)

Connecticut

E. P. Felt (June 24): A taxus scale (Pulvinaria sp., probably near floccifera) was received from Sharon, the twigs showing a somewhat severe infestation.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Delaware

L. A. Stearns (June 23): A State-wide survey indicates 12 species present in varying abundance. Apparently will be a bad mosquito year in sections of the State.

MIDGES (Chironomidae)

Maryland

E. N. Cory (June 23): Troublesome at a vacation camp on the North East River.

Oregon

D. C. Mote (May 18): A serious epidemic of midges is occurring around the lower shore of Upper Klamath Lake. Millions of the flies strike the wind shields and lodge in the radiator of autos driving along the Lake. Numerous cone-shaped swarms are observed pyramiding up from the bushes and buildings and other objects along the road. They alight on the sides of houses, on weeds, shrubbery, brush, everywhere. On the porch of one home near the lake several quarts of dead flies in wind rows were observed. The porch had been swept the day before. Spider webbing on sides of houses and bushes catches the flies making an exceedingly unsightly mass.

California

R. Bogue (May 9): A great deal of sickness in Santa Paula and Ventura was caused this month from a species of midge fly getting into the water supply and wells of this vicinity. Approximately four hundred human cases have been reported so far.

EYE GNATS (Hippelates spp.)

Florida

G. H. Bradley and T. E. McNeel (June 6): Hippelates sp. is very annoying at Gainesville, Leesburg, and Zellwood.

CATTLE

STABLE FLY (Stomoxys calcitrans L.)

Missouri

L. Haseman (June 20): Populations have greatly increased during the month.

Nebraska

M. H. Swenk (June 20): Stable flies began to be troublesome about June 6, and have continued so to date. This is generally true over our southern and eastern counties.

North Dakota F. D. Butcher (June 18): G. nasalis L. and G. haemorrhoidalis L. have been ovipositing this week.

BLACK BLOWFLY (Phormia regina Meig.)

North Dakota H. J. Brush (June 13): Sheep maggots are noticeable where sheep have scoured badly in Stutsman County.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

United States T. E. Snyder (May): During the month of May 233 cases of termites were reported to the Bureau of Entomology. The following list gives the number of cases reported from each section: New England, 2; Middle Atlantic, 79; South Atlantic, 53; East Central, 22; North Central, 9; West Central, 15; Lower Mississippi, 43; Pacific Coast, 10.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

South Carolina P. D. Sanders (June 7): A. Lutken and I began mapping infestations in the following towns: Greer, one block infested; Spartanburg, generally infested; and Greenville, lightly infested.

Mississippi P. D. Sanders (May 26): An infestation of I. humilis was found at Weatherby, 8 miles northeast of Koxciusko on the Vaiden road. It was reported to the Mississippi State Plant Board.

PEA WEEVIL (Bruchus pisorum L.)

Oregon D. C. Mote (May 23): Pea weevils laying eggs at Corvallis. Not all out of hibernation on that date, May 8. A. O. Larson.

Texas

E. W. Laake (June 10): Stable flies are rather scarce at present. The average number of flies per animal during last week, when my observations were made, did not exceed 10.

HORN FLY (Haematobia irritans L.)

Missouri

L. Haseman (June 20): Their populations have greatly increased during the month.

Texas

D. C. Porman (May 31): Horn flies on cattle at Uvalde range from a few on each animal to possibly 2,500 at times; recently an average of approximately 250 to 500 per animal about normal or slightly less.

H. E. Parish (May 30): The situation in Menard County is a rather serious one at the present time. Yesterday I had the opportunity of observing about 275 head of stock in a corral at the Speck Ranch in the northwestern part of the County. I do not believe that I have ever observed any more horn flies on cattle at any time of the year. The number on each animal is hard to estimate, but I think a very conservative estimate would be between 800 and 1,000. All bulls observed were very heavily infested. I was talking to foremen last week at ranch in the southern part of Schleicher County and they were complaining about the abundance of flies. It is my opinion that horn flies are more abundant this year than they have been in several years.

E. W. Laake (June 10): The average number of horn flies per animal during the last week did not exceed 20 to 25 on dairy stock at Dallas. I was told at nearly every dairy that I visited that horn flies were extremely abundant from about the 15th to last of May. Most of the dairymen estimated the number of flies per animal at from 200 to 300.

O. G. Babcock (June 11): The horn fly is subsiding to a slight extent at Sonora. The number of flies per animal will range from 0 to 1,000. On a few cows having horns the flies were massed at the base of the horn for a distance of about three-quarters of an inch. In two cases the flies were massed on the back side of the horn for a distance of 3 to 4 inches.

HORSES

HORSE BOTFLIES (Gastrophilus spp.)

North Dakota

J. A. Munro (June 18): Horse botflies have not in their appearance in McKenzie County, according to word from E. A. Hendrickson, County Extension Agent.

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THE MORE IMPORTANT RECORDS FOR JULY, 1932

The grasshopper situation has not materially changed over the greater part of the heavily infested territory.

In the New England and East Central States white grubs were reported as abnormally abundant, and heavy flights of beetles were reported from a number of localities within this area.

The wireworm Heteroderes laurentii Guer. has been found in two additional counties in Florida and five in Alabama.

The armyworm was reported as very abundant in parts of Iowa.

The fall Hessian fly survey in Ohio indicates a very material increase of this insect, the infestation being 12.5 per cent in 1931 and 35.5 per cent this year. It was also reported as being more abundant in Indiana and Nebraska than it has been in many years, and generally abundant in Michigan and Minnesota.

The wheat stem maggot, probably associated with other wheat-stem insects, was said to be doing considerable damage in the North Central States.

The chinch bug was reported as troublesome much farther north and east than it is usually considered a serious pest. Reports of damage have come from Pennsylvania, Ohio, Nebraska, Michigan, and southern Minnesota.

Over the greater part of the infested territory the oriental fruit moth was not doing much damage.

The raspberry cane borer was reported generally from Maine, New York, and Michigan.

The fall webworm was very abundant on pecan in the South Atlantic States and the walnut caterpillar was reported as defoliating walnut in the East Central States, westward to Kansas and Nebraska.

The corn ear worm was occasioning the usual damage for this time of the year over practically the entire eastern part of the United States.

Many species of blister beetles were abnormally abundant on truck crops everywhere east of the Rocky Mountains.

The tomato psyllid occasioned serious damage to potatoes and tomatoes in parts of Colorado and Utah. In one place as many as 1,000 nymphs per hill were found.

This month the Mexican bean beetle was observed for the first time in the State of New Hampshire. It continued in destructive abundance throughout practically the entire infested territory during July.

The pea aphid was reported in outbreak numbers in the North Central States and in parts of Wisconsin the late pea crop was totally destroyed and a large part of the early crop damaged.

The harlequin bug was reported destructive in Maryland and West Virginia, which is north of the usual destructive range.

The bagworm was quite generally reported, particularly from ornamental evergreens in the Middle Atlantic and East Central States, southward to the Gulf.

The elm leaf beetle was appearing in destructive numbers throughout the New England, Middle Atlantic, and East Central States, and there were isolated outbreaks in Kansas, Washington, and Oregon.

THE MORE IMPORTANT ENTOMOLOGICAL FEATURES IN CANADA, FOR JULY, 1932

The grasshopper outbreak in the Prairie Provinces has been characterized a marked delay and irregularity in the hatching of the eggs in many localities. The outbreak is being dealt with by the widespread distribution of poisoned bait in infested areas, under the direction of provincial and municipal authorities with whom Dominion officials are cooperating. General rains have modified the severity of the situation somewhat, and have promoted good growth of all crops. In British Columbia, grasshoppers are remarkably scarce, although an increase is noted in the Chilcotin and Nicola areas where drought conditions continue to prevail.

Infestations of beet webworm larvae are widespread in the Prairie Provinces. Common weeds are chiefly subject to attack, but reports of damage to alfalfa, grain, and flax have been received from certain localities, particularly in Saskatchewan. In many areas serious damage has been effected to garden plants.

Following the exceptionally heavy flight of June beetles over a wide territory in eastern Ontario, this spring, the enormous numbers of eggs laid threaten serious crop losses by white grubs in 1933. In southern Quebec, white-grub damage is becoming increasingly pronounced.

Reports indicate that the Colorado potato beetle is abnormally abundant over a considerable part of its range in Canada.

Increased abundance of European corn borer moths and eggs has been noted in corn plots under observation in southern Ontario during the season.

Extensive injury to late-planted grain by a species of seed maggot is noted for the first time in certain areas in Saskatchewan.

The caragana beetle, or Nuttall's blister beetle, has severely damaged caragana hedges, beans, and peas in sections of the Prairie Provinces.

Severe losses of onion crops due to the onion maggot are reported in southern areas of Saskatchewan and Alberta.

The rose chafer is in outbreak form in parts of southern Ontario.

The striped cucumber beetle is destructively abundant on cucurbits throughout southern sections of eastern Canada.

In the fruit-growing areas of the Dominion, reports in general would indicate that the more important insect pests of fruit are at a low ebb.

Certain species of aphids are markedly abundant in the Prairie Provinces.

A European species of sawfly, Diprion polytomum Hartig, is infesting white and black spruce, particularly the former, throughout a large part of the Gaspé peninsula, Que. This species, which is a defoliating insect, was discovered in the Gaspé in November, 1930, but there is no evidence as to when and where it first became established there. The eastern spruce bark beetle is also attacking the trees in the affected area and has caused the death of large numbers.

The European pine shoot moth is an increasingly abundant and destructive pest in pine plantations along the north shore of Lake Erie, in southern Ontario, and occurs in light to moderate infestations throughout the Niagara peninsula. Eradication and control efforts are being continued.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Georgia. O. I. Snapp (July 12): Grasshoppers caused serious injury to corn at Byron before farmers used poisoned-bran bait. (July 22): The bird grasshopper (Schistocerca americana Drury) is very abundant at Fort Valley and causing considerable damage to corn, beans, cotton, and young peach trees. In one locality this grasshopper, emerging from a wheat field, had completely defoliated cotton and corn interplanted with beans in adjoining fields.

Florida. J. R. Watson (July 26): Grasshoppers mostly, S. americana, although not epidemic as in the West, are more abundant than I have ever known them in Florida during the 20 years of my experience.

Kentucky. W. A. Price (July 26): Grasshopper nymphs are rather abundant in the grasslands. The frequent rains during the summer have kept the meadows green and for that reason we have had no complaints regarding this pest to date. Apparently they have been content to remain in the grasslands, thus saving the cultivated crops.

Michigan. R. Hutson (July 23): Grasshoppers (Melanoplus bivittatus Say, M. atlantis Riley, and Camnula pellucida Scudd.) are very abundant over all the upper peninsula.

Wisconsin. E. L. Chambers and assistants (July): Grasshoppers are reported as very abundant and doing some damage throughout the State. (Abstract, J.A.H.)

Minnesota. A. G. Ruggles (July 26): Grasshoppers are very abundant. Our campaign in Minnesota, where \$250,000 was spent for poisoned-bran bait, has succeeded in saving the small grain. We are worried now about the late crops.

North Dakota. J. A. Munro and assistants (July): Grasshoppers are moderately to very abundant in the northeastern group of counties, also in Bottineau and Renville Counties, the predominant species being M. bivittatus. Although small areas show considerable fungus, dry weather has prevented the general prevalence of the disease. (Abstract, J.A.H.)

Iowa. H. E. Jaques (July): We have recently completed a 1,700-mile trip around the rim of Iowa where we collected in 43 counties. As far as I can see, there are fewer grasshoppers than usual except for a few local spots.

Nebraska. M. H. Swenk (June 20 to July 21): The situation during the month was along the line of a continued reduction of the population, in part through the direct effect of heavy rains, but more largely through the coming into activity of the fungous disease produced by Empusa grylli. Our first report of the destruction of grasshoppers in large numbers by this disease are dated June 25, and they have continued to July 21. All over southeastern Nebraska, from Richardson County west and north to Dawson, Brown, and Stanton Counties, we have had reports, or have made observations of the prevalence of this disease during the period here covered. Beginning the last week in May a period of rainy weather began in eastern Nebraska, which continued until early in July, and during the latter part of this period the temperatures were high producing much warm, moist, sultry weather. As a result of the direct effect

of the late May and June rains, and later the destruction of millions of partly grown or adult grasshoppers by the fungous disease, together with a heavy destruction of the pests by early poisoning operations, the grasshopper situation in eastern Nebraska has eased enormously; nevertheless, in scattered localities, grasshoppers survived in large enough numbers that they did considerable damage when they started entering the corn toward the middle of July. Such localized damage has been reported especially from Holt, Custer, Platte, Cuming, Saunders, Hall, Nuckolls, and Richardson Counties, from June 24 to July 17. Enough grasshoppers persist along the Niobrara Valley, and along the river in our northern Missouri River counties, to require continued serious attention. Rather more general injury has developed in the western half of the State.

ansas. H. R. Bryson (July 17): The situation in Kansas is much more encouraging than it promised to be earlier in the season. Prof. G. A. Dean reports the grasshoppers very scarce in counties in northeastern Kansas where considerable damage occurred last season. Requests for information regarding poisoned-bran mash indicate that damage is expected in some western counties. Grasshoppers are quite abundant at Manhattan, but not in outbreak numbers. Wet weather in northeastern Kansas favored the spread of grasshopper disease.

klahoma. C. F. Stiles (July 26): Grasshoppers are extremely abundant along creek banks and fence rows in various sections of Oklahoma. The outbreak is not general, but localized in communities where there is an abundance of waste land. The yellow leg (M. differentialis Thos.) is the most abundant.

labama. H. P. Loding (July 17): Grasshoppers of various species in great numbers are doing damage to Satsuma orchards, dahlia plantings, and gladioli.

Mississippi. C. Lyle (July 20): On June 30 a correspondent at Holly Bluff sent specimens of grasshoppers (Schistocerca sp.) with a report that quite a bit of damage had been caused to cotton in that section, in some instances entire fields having been destroyed. Correspondents at various other points in the State, especially Yazoo City and Essex, wrote that grasshoppers were present in large numbers and causing considerable injury to cotton and soy beans.

olorado. G. M. List (July 23): Grasshoppers are from moderately to very abundant in eastern Colorado.

ah. G. F. Knowlton (July 12): Many species of grasshoppers are largely adult at the present time. The lesser migratory grasshopper (M. atlantis) and Packard's grasshopper (M. packardi Scudd.) were damaging wheat and alfalfa at Marysville. The warrior grasshopper (C. pollucida) is extremely abundant between Richfield and Annabella.

evada. G. G. Schweis (July 26): Serious outbreaks occurred on Nevada-California line and also in Douglas County, Nev. Several species of hoppers involved.

alifornia. Monthly News Letter, Los Angeles Co. Agr. Comm. (June 29): In common with other sections of the State and country, grasshoppers have made an assault in the Antelope Valley this summer. Nine species are working on grain and alfalfa fields in the foothill district on the north side of the Valley and are causing some damage in places. Although a few acres of grain have been completely destroyed, most of the infested fields have suffered only the loss

of leaves on the stalks, allowing the heads to mature satisfactorily. The harvest has not been interfered with.

CUTWORMS (Noctuidae)

Florida. J. R. Watson (July 26): The semi-tropical army worm (Prodenia eridania Cram.) is showing up in some sections of the State. As usual, it is attacking grass as its first choice.

Maine. C. R. Phipps (July 27): Cutworms (Agrotis ypsilon Rott.) are very abundant.

Oregon. D. C. Mote (July 23): A widespread outbreak of Prodenia praeifica Grote has been reported from Lane County southward, including Jackson and Klamath Counties and also a local outbreak in Yamhill County of Lycophotia margaritosa Hbn. in 20 acres of alsike and 10 acres of red clover.

WHITE GRUBS (Phyllophaga spp.)

Massachusetts. A. I. Bourne (July 25): White grubs are moderately to very abundant in one potato field, where 22 grubs to a hill were collected. These fields were in sod last year. White grubs were so abundant and doing so much injury to a field of Cobblers that it was necessary to dig the field two or three weeks early in order to salvage as much of the crop as possible.

Rhode Island. A. E. Stene (July 23): White grubs are very abundant in some places.

North Carolina. R. A. St. George (July): During June larvae were active in the State Forest Nursery seed beds located near Clayton, where they caused serious injury to loblolly and shortleaf pine seedlings. During July many of the grubs were found to be parasitized by what may prove to be one of the robberflies.

Ohio. T. H. Parks (July 20): Newly set strawberry beds have suffered from more than the usual white-grub injury. In some cases beds have been torn up and planted to other crops because of the injury. In a field near Cleveland aster roots were being seriously damaged and many of the plants were dying. This ground had grown up to weeds last year.

E. W. Mendenhall (July 14): White grubs are numerous on gladiolus in a nursery at Gore, Hocking County.

Kentucky. W. A. Price (July 26): White grubs of Brood B were reported injuring strawberry plants at Russell and corn at Lexington.

Wisconsin. E. L. Chambers and assistants (July): June beetles are stripping deciduous trees in many parts of the State. (Abstract, J.A.H.)

Minnesota. A. A. Granovsky (July 11): The mass flight of June beetles is over; the maximum flight occurred about the middle of June. The adults are still found, but not in large numbers. Contrary to common opinion the oviposition readily takes place in cornfields free of weeds as well as in well cultivated raspberry patches. The eggs and newly hatched larvae were found in such situations without difficulty, especially near the oak trees.

A SCARABAEID BEETLE (Pachystethus marginatus Fab.)

North Carolina. R. W. Leiby (July 11): This beetle appears to be present in more than average numbers, causing damage to pecan and walnut trees in the eastern section of the State.

WIREWORMS (Elateridae)

Florida and Alabama. K. L. Cockerham (June): On a recent scouting trip O. T. Deen found Heteroderes laurentii Guer. in two additional counties in Florida, namely, Okaloosa and Walton and in five additional counties in Alabama, namely, Monroe, Conecuh, Covington, Geneva, and Houston.

Connecticut. D. S. Lacroix (July 2): Larvae of the eastern field wireworm (Pheletes ectypus Say) are more abundant throughout the tobacco-growing areas in the Connecticut Valley, and are working much later than in 1930 and 1931. Usually they are through by June 15 but this year have been working on plants up to July 1.

Nebraska. M. H. Swenk (June 20 to July 20): During the first week in July a Stanton County correspondent reported that he had considerable injury in his cornfield by wireworms, which proved to be the common corn wireworm (Melanotus cribulosus Lec.).

Idaho. R. W. Heagele (July 26): Wireworms, Pheletes californicus Mann., are very abundant in southern Idaho.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Connecticut. R. B. Friend (July 25): The abundance of adults is about normal. Adults have been collected this year outside the quarantined area, and the insect is slowly spreading throughout the city of New Haven.

E. P. Felt (July 25): The Asiatic beetle was found in abundance in Putnam's Cemetery, Greenwich.

ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

Connecticut. E. P. Felt (July 25): The Asiatic garden beetle occurs somewhat generally on Ocean Drive West, Shippan and Stamford. This is presumably the first record for this insect in southwestern Connecticut.

CEREAL AND FORAGE-CROP INSECTS

ARMYWORM (Cirphis unipuncta Haw.)

Iowa. H. E. Jaques (July): Armyworms are scarce in Howard County, moderately abundant in Dickinson, Emmet, O'Brien, Cerro Gordo, Hardin, and Crawford Counties and very abundant in Lyon and Floyd Counties.

North Dakota. J. A. Munro and assistants (July): The armyworms were first observed on July 7, and by the middle of the month were reported as very abundant in Burleigh, McLean, Stark, and Walsh Counties. (Abstract, J.A.H.)

WHEAT

HESSIAN FLY (*Phytophaga destructor* Say)

Ohio. T. H. Parks (July 23): At the completion of the annual wheat-insect survey the Hessian fly was found to have increased more than anticipated. The average of straws infested this year was 35.5 per cent, compared with 12.5 per cent in 1931. Since some straws carried more than one flaxseed, the infestation is now more than three times as heavy as in 1931. This has happened in spite of the fact that May and June were deficient in rainfall. Nearly all of the infested straws remained standing and matured a fair yield of high quality wheat testing 58 to 60 pounds per bushel. Yields were under expectations in the southern half of the State owing to the drought of May and June. North of Columbus the yields were good. The fly did not cause very much reduction in yield in spite of the high infestation in some fields. Fourteen fields averaged between 70 and 92 per cent infestation, the highest infested field having been sowed after the fly-free date. This year the early-sowed fields did not carry any more infestation at harvest time than those fields sowed after the proper seeding date. The early sowed fields were heavily infested during the fall and winter, but at harvest time there were very few lodged straws in these fields and they suffered no great yield reduction. However, they did not usually yield so well as the later sowed fields, as the past winter was not severe on late wheat. During the survey more than the usual number of flaxseeds were found to be desiccated and to contain dead larvae. Parasitism was also rather high. In making the survey, ten fields were examined in each county and 100 straws examined in each field. Following are the percentages of straws found infested in each of the 24 counties surveyed: Fulton, 27; Henry, 39; Wood, 51; Putnam, 17; Seneca, 62; Huron, 68; Wyandot, 30; Richland, 28; Wayne, 58; Stark, 56; Holmes, 54; Knox, 25; Delaware, 28; Hardin, 16; Champaign, 28; Clark, 29; Miami, 47; Butler, 32; Clinton, 33; Clermont, 24; Pickaway, 20; Fairfield, 17; Ross, 7; Shelby, 52; average for State, 35.5 per cent.

Indiana. H. O. Deay (July 25): The Hessian fly is more abundant than for many years. According to our records many fields have from 90 to 98 per cent of the stubble infested. The infestation in the southwestern part of the State did not become so severe as earlier records would indicate. Infestation in the central part is much more severe than it has been for a number of years.

Michigan. R. Hutson (July 23): Generally abundant through the southern end of the lower peninsula.

Minnesota. A. G. Ruggles (July 26): Quite bad in winter wheat in a few southern counties. No definite reports from spring wheat.

Nebraska. M. H. Swenk (June 20 to July 20): Wheat harvest completed, and the fear that the Hessian fly would make severe inroads upon the yield in southeastern Nebraska were fully realized.

WHEAT STEM MAGGOT (*Meromyza americana* Fitch)

Michigan. R. Hutson (July 8): *M. americana* is present to the extent of approximately 1 per cent in most fields of barley in the lower peninsula.

Minnesota. A. G. Ruggles (July 26): The wheat stem maggot is more abundant than usual. In some fields 20 per cent of the heads are affected.

North Dakota. J. A. Munro (July 18): Wheat stem maggot widely distributed, but few reports of serious loss.

Nebraska. M. H. Swenk (July 20): During the last week in June the wheat stem maggot was found doing serious damage in some barley fields in Dodge County.

FRIT FLY (Oscinella frit L.)

Minnesota. A. A. Granovsky (July 11): The frit fly assumed considerable importance this year, infesting several fields about St. Paul. Some plats at the experiment station showed infestation from 10 to 35 per cent or even higher. The infested plants stooled profusely without forming heads. Injury is severe and losses are considerable.

SAY'S STINK BUG (Chlorochroa sayi Stal)

Utah. G. F. Knowlton (July 12): Say's plant bug is abundant and damaging the heads of barley at Beaver.

Colorado. G. M. List (July 23): Say's plant bug caused a moderate amount of injury to winter wheat in northern Colorado.

GREEN BUG (Toxoptera graminum Rond.)

North Dakota. J. A. Munro (July 18): A few reports of serious injury to wheat in northwestern counties have been received. Ladybird beetle and syrphid-fly larvae are checking the infestation.

WHEAT JOINT WORM (Harmolita tritici Fitch)

Ohio. T. H. Parks (July 23): The wheat joint worm has not increased any over last year and no serious injury has occurred. The straw infestation in different fields averaged from 0 to 8 per cent but none of the straws was bent over or lodged because of the insect. It has been many years since it has been very serious.

Wisconsin. E. L. Chambers and assistants (July): The wheat joint worm is reported as doing considerable damage over considerable areas in Oneida, Kenosha, Portage, Chippewa, Pepin, and Grand Counties. (Abstract, J.A.H.)

WHEAT STEM SAWFLY (Cephus cinctus Nort.)

North Dakota. J. A. Munro and assistants (July): What is probably the wheat stem sawfly, was reported as very abundant in Walsh County and moderately abundant in Burleigh and Cavalier Counties. (Abstract, J.A.H.)

SMUT BEETLE (Phalacrus politus Melsh.)

Nebraska. M. H. Swenk (July 20): During the third week in June the smut beetle was reported as very abundant in wheat fields in Frontier County.

WHEAT HEAD ARMYWORM (Neleucania albilinea Hbn.)

Iowa. H. E. Jaques (July 24): The wheat head armyworm is moderately abundant in Audubon County.

CORN

CHINCH BUG (Blissus leucopterus Say)

Pennsylvania. H. E. Hodgkiss (July 26): There are local infestations on corn, where damage is severe.

Ohio. T. H. Parks (July 23): Chinch bugs increased greatly during the last year and are now injuring corn in about half of the counties in western Ohio. They are most abundant where barley is being grown and have caused rather severe injury to some fields of corn. Wood County probably has more of the bugs than any other county.

North Dakota. Z. P. Metcalf (July 6): Chinch bugs are very bad on corn in Pitt County.

Indiana. H. O. Deay (July 25): The chinch bug is very abundant in De Kalb, Allen, and Huntington Counties.

Illinois. W. P. Flint (July 20): Chinch bugs are causing damage in some 30 counties as far north as Cook, Will, and Kendall Counties.

Michigan. R. Hutson (July 25): During the week of July 18 we received reports of the chinch bug from Britton, Ridgeway, Tecumseh, Milan, Dundee, and Petersburg.

Minnesota. A. G. Ruggles (July 26): Chinch bugs are definitely doing damage in Goodhue, Anoka, and Mille Lacs Counties, and probably in other counties also, no definite reports yet.

Iowa. H. E. Jaques (July): Chinch bugs have been serious in southern Iowa, but are now much reduced in numbers. They threaten trouble for next year.

Nebraska. M. H. Swenk (July 20): Along the southern border of the State, from Nuckolls County east, and north into Lancaster County, chinch bugs have been abundant in many localities, and from June 22 to July 15 caused some damage in young corn when they moved out of the small grains, especially the barley fields.

Kansas. H. R. Bryson (July 17): The chinch bugs have increased in numbers at Manhattan during the past months and have caused some damage to corn plots adjacent to plots of thin wheat at the college agronomy farm. Scattered reports of injury were received from central Kansas. The nymphs have matured at Manhattan and the adults have dispersed over the fields. The recent dry weather has been favorable to their development and unfavorable to the growth of corn and sorghums.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Maryland. E. N. Cory (July 20): C. pulicaria was especially abundant in late June, doing a tremendous amount of damage to corn.

DESERT CORN FLEA BEETLE (Chaetocnema ectypa Horn)

Arizona. A. H. Caldwell (July 5): Desert corn flea beetles are over the entire district of Safford on corn. There are many of them.

CORN BILLBUGS (Calendra sp.)

Minnesota. A. A. Granovsky (June 23): Billbugs are abundant this year, especially in wet and low land. Several fields in Fillmore County were replanted, but were injured again quite badly.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Alabama. J. M. Robinson (July 18): The lesser corn stalk borer is moderately abundant in field corn at Cullman, Roanoke, and Anniston.

Mississippi. C. Lyle (July 20): Cornstalks which show injury by the lesser corn stalk borer, were received from Escatawpa on July 15.

California. F. H. Wymore (July 23): The lesser corn stalk borer is moderately abundant on milo maize (Holcus sorghum). The caterpillars were attacking the young plants near the crown, causing them to topple over.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

New Jersey. H. H. White (July 20): Three butts of cornstalk containing insects for determination (determined as the larger corn stalk borer by W.R. Walton) were received from Cape May Court House.

Maryland. Press release, Ext. Service Univ. Md. (July 18): Farmers in many sections of Maryland are suffering serious damage to their corn crops by corn borers, according to reports received. The insect doing the damage is the larger corn stalk borer.

Virginia. H. G. Walker (July 27): The larger stalk borer is very abundant at Norfolk. About 75 per cent are now in the pupal stage, 20 per cent have emerged, and 5 per cent are still in the larval stage.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

California. M. L. Jones (June 30): The alfalfa weevil is now established in central California in the following counties: Stanislaus, San Joaquin, Alameda, Contra Costa, and Santa Clara.

A. E. Michelbacher (July 20): The alfalfa weevil is still to be found in the region around Pleasanton and Niles. It is not present in large numbers. Larvae of all stages of development as well as adults can be collected. Eggs have not been observed in the field for some little time, although the adults oviposit freely in laboratory cultures.

Colorado. G. M. List (July 23): The alfalfa weevil is moderately abundant in Mesa and Rio Blanco Counties, where some injury has been observed.

PEPPER GRASS BEETLE (Galeruca externa Say)

Minnesota. C. E. Mickel (June 21): This beetle is injuring alfalfa at Fertile.

COWPEAS

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

North Carolina. W. A. Thomas (July 22): The first specimen of this insect attacking cowpeas at Chadbourn was observed today. Apparently the infestation is not so heavy as that of last year at this period.

Alabama. J. M. Robinson (July 18): The cowpea weevil is very abundant on cowpea at Hartford, Spring Hill, Auburn, and Foley.

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

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas. F. L. Thomas and associates (July 22): A. argillacea was found in the following localities: Taft, San Patricio County, 7/11/32; Los Fresnos, Cameron County, 7/20/32; San Antonio, Bexar County, 7/20/32. Larvae of all sizes were found in fields at Taft and Los Fresnos. Moths first appeared in San Antonio no larvae seen.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Delaware. L. A. Stearns (July 22): There is good control of the codling moth in well sprayed orchards. Few mature first-brood larvae June 15, first first-brood moths June 30, first second-brood eggs July 8, first second-brood larvae July 2.

New York. N. Y. State Coll. Agr., Weekly News Letter (July): The peak of first-brood emergence occurred in western New York during the last week in June and side-worm injury was quite apparent during the first week in July. On the whole, however, damage during July was not so serious as during this month last year. (Abstract, J.A.H.)

Georgia. C. H. Allen (July 18): Codling moths are moderately abundant at Cornelia. Third-brood egg deposition now started.

Ohio. T. H. Parks (July 23): Codling moths are very serious in Lawrence County. It now appears that August spraying will be necessary to control the insect in the hill orchards. In central and northeastern Ohio the regular spray schedule is keeping the insect under control.

Indiana. E. O. Deay (July 25): Infestation at the beginning of the second brood at Bedford (July 2) was about the same as in 1931. The first adults of the first brood emerged at Bedford June 29 (G. E. Marshall) and the first flight of adults at Vincennes occurred July 2 (R. F. Sazama).

Illinois. W. P. Flint (July 20): Northern Illinois - No larvae taken under bands to date. Entrances as high as 15 per cent (July 9). No change during week of

July 15. Central Illinois - Moth emergence increased rapidly the latter part of the week, week of July 15. Southern Illinois - Fresh entrances in apples during past week somewhat fewer than last week in Jackson and Union Counties but somewhat more in Johnson County, week of July 15. Egg parasitism noted to be high last week.

Minnesota. A. A. Granovsky (July 11): Codling moths are moderately abundant. Unsprayed orchards all badly infested.

Missouri. M. A. Smith (July 13): A number of apple growers in the vicinity of Marionville who have been running codling-moth bands report that they are not finding the number of worms that there were at this time last season, July 2.

Kansas. H. R. Bryson (July 18): The codling moth is moderately abundant in northeastern Kansas. An increase in the population is reported by Dr. R. L. Parker in the apple district of northeastern Kansas due to failure of growers to clean up the culls of last season.

Wisconsin. E. L. Chambers and assistants (July): The codling moth is generally abundant throughout the State. (Abstract, J.A.H.)

Idaho. R. W. Haegele (July 26): Codling moth is very abundant in southwest Idaho.

Utah. G. F. Knowlton (July 21): Codling moths are from moderately to very abundant in northern Utah.

Nevada. G. G. Schweis (July 26): The codling moth is very abundant in Reno. Unsprayed fruit is 90 per cent wormy.

Washington. E. J. Newcomer (July 21): Moths of the second brood began appearing in baits at Yakima in some numbers July 18. This is ten days later than in 1931.

Oregon. D. C. Mote (July 23): The adults of the second brood are now appearing in the Willamette Valley.

APPLE FRUIT MINER (Marmara pomonella Busck)

Arizona. A. H. Caldwell, jr. (July 5): This insect is slightly abundant on apple at Pima.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): The eye-spotted budmoth was hatching July 13 in Ulster County and hatching was under full swing in Monroe County on July 25, at which time the first hatching was observed in the western part of the State. (Abstract, J.A.H.)

APHIDS (Aphidae)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): The rosy apple aphid, Anuraphis roseus Baker, did considerable damage in both western New York and the Hudson River Valley. By the middle of the month, however, damage had about ceased. (Abstract, J.A.H.)

Wisconsin. E. L. Chambers and assistants (July): Fruit aphids are more abundant than they have been for many years. (Abstract, J.A.H.)

Massachusetts. A. I. Bourne (July 26): The rosy apple aphid, which was rather abundant in a few orchards in the State this season, had practically disappeared by July 4 or 5.

Connecticut. P. Garman (July): The rosy aphid has done considerable damage in several commercial orchards in New Haven County. It was held in check in others largely by species of Coccinellidae. Green apple aphids, Aphis pomi DeG., are apparently abundant in Litchfield County.

LEAFHOPPERS (Cicadellidae)

Massachusetts. A. I. Bourne (July 25): Apple leafhoppers are moderately to very abundant.

Maryland. E. N. Cory (July 21): Apple leafhoppers are very abundant.

Washington. E. J. Newcomer (July 21): Leafhoppers are extremely common in apple orchards this season. Most of them are the white apple leafhopper, Typhlocyba pomaria McAtee.

New Hampshire. L. C. Glover (July 23): Apple leafhoppers (Empoasca sp. and Typhlocyba sp.) were observed in moderate numbers in orchards in southwestern New Hampshire on July 22.

Connecticut. P. Garman (July): Considerable damage in many commercial orchards. Parasitism beginning to slow up.

A TINGID (Corythucha salicata Gibson)

Oregon. D. C. Mote (July 23): B. G. Thompson reports considerable damage in certain sections of the Willamette Valley by this tingid. In about 25 acres in one apple orchard the leaves have been destroyed and are falling off.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Massachusetts. A. I. Bourne (July 26): The first flies of the apple maggot were found to be emerging the very last days of June. From July 10 to 16 they were appearing in considerable abundance in the orchards.

New York. N. Y. State Coll. Agr., Weekly News Letter (July): Adult flies were emerging in the Hudson Valley during the last week in June, which was later than in 1931. (Abstract, J.A.H.)

Michigan. E. I. Daniel (July 9): Adult flies have appeared in our cages in the insectary from hawthorn fruits collected at Sawyer, South Haven, Ann Arbor, and East Lansing. While flies in the cages are emerging considerably ahead of those in the field, it gives us an indication as to where the infestations are.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): By July 18 about one-third of the apple curculios had pupated in eastern New York and adults started to appear on July 21 in that section of the State. (Abstract, J.A.H.)

Kansas. H. R. Bryson (July 18): The apple curculio is reported by Dr. R. L. Parker as doing considerable injury to the current year's growth of apple twigs. This, no doubt, is worse owing to the scarcity of fruit. Severe injury to the fruit has also occurred. Some orchards have a total loss of fruit due to injury by the insects in northeastern Kansas.

ROSE LEAF BEETLE (Modonota puncticollis Say)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): During the first two weeks in July this insect was more abundant than at any time last year and did considerable defoliating of apple and cherry. (Abstract, J.A.H.)

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

Ohio. T. H. Parks (July 19): Serious damage to apple foliage in Ashtabula County has occurred on trees not bearing and not being sprayed this year.

PEACH

PEACH BORER (Aegoria exitiosa Say)

Georgia. O. I. Snapp (June 29): The first pupa of the season was taken from a peach tree today at Fort Valley. According to our records, this is the earliest pupation for this latitude.

Tennessee. H. G. Butler (June 29): Borer treatments were omitted by most of the growers at Harriman last fall and during the present month it has become very evident that considerable injury has resulted. Several of the better orchards in which this pest has been of minor importance are now to be classed as heavily infested. Adult emergence began in the insectary and in the orchards on May 25. Since this time emergence has continued but it has been very light. Oviposition, at the insectary, began May 29.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (July 25): First-brood work scarce, second brood moderate in abundance.

Delaware. L. A. Stearns (July 22): First and second brood larvae heavily parasitized; peak of second-brood twig injury in second and third weeks of July.

Georgia. C. H. Alden (July 18): The oriental fruit moth is moderately abundant at Cornelia. Increase over 1931.

O. I. Snapp (July 20): Broods are beginning to overlap at Fort Valley. More abundant than usual on back-yard peach trees in town, but scarce in commercial peach orchards.

Indiana. H. O. Deay (July 25): Oriental fruit worms still doing severe injury where peach twig growth is vigorous. In general, twig injury was less abundant the week of July 17-23 than it was for the week of July 10-16. Since no fruit is present in most peach orchards, it is likely that apple will be severely infested later in the season.

M. B. Waite (July 28): In a report of July 16 from Vincennes Leslie Pierce states that the oriental fruit moth is more numerous than at any time since this insect was first found in that section.

Illinois. W. P. Flint (July 20): Fresh twig entrances are to be found but are scarce wherever I have made observations. (S. C. Chandler, Carbondale): No increase in visible fruit injury in the midsummer varieties has been noted but in 1,000 Champion peaches picked July 13 there was 7.8 per cent visible infestation. In a block of Belle of Georgia I could count no increase over what it was two months ago. (Observation made July 14.)

Kentucky. W. A. Price (July 26): Twig injury from oriental fruit moth is rather severe in orchards where twig growth is vigorous.

Tennessee. H. G. Butler (June 29): The twig infestation by larvae of this species has been much heavier this year at Harriman than in either 1930 or 1931. The first parasite activity was noted in twigs collected May 17. This has steadily increased.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Delaware. L. A. Stearns (July 22): First first-brood adults July 6. First-brood grubs are moderately parasitized by Triaspis curculionis Fitch.

Georgia. O. I. Snapp (July 20): Although first-generation adults began to emerge from the soil on June 16 at Fort Valley, they have not yet started to deposit second-generation eggs in the insectary. Small larvae are fairly abundant in peaches that are ripening now, but these may be from eggs deposited by overwintered adults.

Illinois. W. P. Flint (July 20): A big drop in the numbers of curculios showed in jarrings in Carbondale and Anna on July 15. Emergence from drop peach cages at Carbondale practically ceased the week ending July 15.

Tennessee. H. G. Butler (June 29): First-brood adults began to emerge from the soil at the insectary on June 21 at Harriman.

Arkansas. W. G. Amstein (July 13): Thus far none of the second-brood curculio have shown up out of the cages at Hope.

Mississippi. C. Lyle and assistants (July): The curculio was reported during the month as very abundant throughout practically the entire State. (Abstract, A.H.)

A LEAF BEETLE (Exosoma pini Schffr.)

Arizona. A. H. Caldwell (July 5): E. pini reported on peach at Safford, Graham County.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

North Carolina. W. A. Thomas (July 8): This insect is unusually abundant on developing peaches at Chadbourn. As many as six to eight have been observed on a single peach, leaving punctures over practically all the surface. Hardly a peach on some trees has been exempt from this attack. The work of this insect is characterized by dozens of minute punctures over the outer skin with darker areas around these punctures in the flesh of the peach. This insect is also abundant on developing cowpeas where the whole pod is speckled with the punctures. In many cases the attack is so severe as to cause the young pods to dry up before the seeds are formed within.

PEAR

QUINCE CURCULIO (Conotrachelus crataegi Walsh)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): The quince curculio occasioned more damage to pears than it has during the past two seasons in eastern New York. (Abstract, J.A.H.)

PEAR PSYLLA (Psyllia pyricola Foerst.)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): During July the pear psylla increased, but not to such an extent as to warrant general spraying. (Abstract, J.A.H.)

CHERRY

CHERRY FRUIT FLY (Rhagoletis cingulata Loew)

Oregon. D. C. Mote (July 23): S. C. Jones reports that adults are still emerging in the Valley. Maggots were first found on June 28. On July 12 maggots were first found pupating.

A MITE (Eriophyes padi Wal.)

Maryland. E. N. Cory (July 20): Found on cherry at Salisbury.

RASPBERRY

RASPBERRY CANE BORER (Oberea bimaculata Oliv.)

Mine. H. B. Peirson (July 21): The raspberry cane borer is very abundant in Augusta on raspberry, strawberry, and rose.

New York. W. E. Blauvelt (June 28): Infested canes received from Niagara Falls.

Michigan. E. I. McDaniel (June 30): Never before has this insect been so numerous. It works not only in blackberries and raspberries, but also in roses quite freely. It is received from all over the State daily. Today it came in from Inlay City and East Lansing.

RASPBERRY ROOT BORER (Bombus maritima Linn.)

Oregon. D. C. Mote (July 23): K. W. Gray reports first pupae of the raspberry borer found about July 9.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York. N. Y. State Coll. Agr., Weekly News Letter (July): The grape leafhopper was quite numerous throughout both eastern and western New York. The leafhoppers were still hatching in the Hudson River Valley during the first week in July, which was a week later than they were in 1931. (Abstract, J.A. H.)

Iowa. C. N. Ainslie (July 12): Swarms of leafhoppers of the Typhlocybini are attacking vines of the Beta grape in vineyards here in Sioux City. Concord and Niagara grapes appear to have been exempt from injury so far.

Nebraska. M. H. Swenk (June 20 to July 20): Grape leaves, and to a greater extent woodbine leaves, were reported injured by the grape leafhopper from July 6 to date, especially in northern Nebraska.

GRAPE PHYLLOXERA (Phylloxera vitifoliae Fitch)

Kentucky. W. A. Price (July 26): Grape phylloxera appeared abundantly in a vineyard at Flemingsburg.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Kentucky. W. A. Price (July 26): Grape leaf folder did considerable damage at Mayfield.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Delaware. L. A. Stearns (July 22): First mature first-brood larvae June 30. First mature first-brood moths July 14.

A SCARABATID (Pachystethus lucicola Fab.)

Massachusetts. A. I. Bourne (July 26): A beetle which was identified as this species was sent in to this office from practically every section of the State. For the most part it was stated that the beetles were found in large numbers mainly on grapes, but they were also collected from grass, the foliage of fruit trees, and on corn, probably having alighted there more or less incidentally.

PECAN

FALL WEBWORM (Hyphantria cunea Drury)

North Carolina. R. W. Leiby (July 11): The fall webworm is more destructive to pecan foliage than usual.

South Carolina. W. A. Thomas (June 27): It was observed that this insect was particularly abundant on native hickory along the highways, especially in the swampy area near Walterboro. Hundreds of trees, mostly from 10 to 15 feet in height, carried this infestation. Pecans in the same general area showed only a light infestation.

Georgia. O. I. Snapp (June 30): The first nest of larvae was observed on a pecan tree in Fort Valley today.

Ohio. E. W. Mendenhall (June 28): The fall webworm is quite noticeable on apple, mulberry, and some other shade trees, in central Ohio.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Georgia. J. B. Gill (July 25): Occasional colonies of the walnut caterpillar have been observed in pecan orchards near Albany.

Florida. J. R. Watson (July 26): The walnut defoliator is becoming rather common on pecan trees, although not so serious as last year.

Ohio. T. H. Parks (July 21): Partial defoliation of walnut trees has occurred in central Ohio counties because of the presence of this insect.

Illiana. H. O. Deay (July 25): The walnut caterpillar is very abundant in the southern half of the State. One correspondent stated that nearly all of the walnuts in the southern one-third of the State were defoliated by July 18.

Nebraska. M. H. Swenk (June 20 to July 20): During the period here covered there has been a very severely injurious abundance of the walnut caterpillar on the walnut trees in southeastern Nebraska from Pawnee County west to Jefferson and Thayer Counties, and north to Otoe, Cass, Lancaster, and Douglas Counties. Many trees in this area were stripped of their leaves, between June 30 and July 15. D. B. Whelan reports the start of pupation on July 10.

Kansas. H. R. Bryson (July 17): The walnut datana has caused serious damage to walnut trees in Kansas. Reports indicate that the injury is general. A large number of trees in the vicinity of Manhattan has been completely defoliated. One grove under observation has been completely defoliated by this first brood.

Mississippi. C. Lyle (July 20): J. M. Langston reports finding, on July 11, the first colony of walnut caterpillars at State College during 1932. They were about half grown and were in a pecan tree.

PECAN LEAF CASE BEARER (Acrobasis palliolella Rag.)

Georgia. J. B. Gill (July 25): There is a very heavy infestation of the pecan leaf case bearer in the commercial pecan orchards of southern Georgia.

FIG

THREE-LINED FIG BORER (Ptychodes trilineatus L.)

Alabama. H. P. Loding (July 17): The roundheaded fig borer is doing great damage to old fig trees in Mobile City.

TRUCK - CROP INSECTS

CORN EAR WORM (Heliothis obsoleta Fab.)

- New York. N. Y. State Coll. Agr., Weekly News Letter (July 25): The corn ear worm is raising havoc with sweet corn again this year. Many growers of ear sweet corn have given up hope of marketing any of their product, in Onondaga County.
- New Jersey. T. J. Headlee, R. C. Burdette, and C. H. Nissley (July): The corn ear worm was damaging early beans during the first week in July in the southern part of the State. (Abstract, J.A.H.)
- Pennsylvania. T. L. Guyton (July 26): The corn ear worm is very abundant in York County.
- Delaware. L. A. Stearns (July 22): Corn ear worm at Angola on July 8. Tomato fruit worm reported at Smyrna July 6.
- Virginia. H. G. Walker (July 27): The corn ear worm is very abundant on green wrap tomatoes on the eastern shore.
- Florida. J. R. Watson (July 26): The corn ear worm is very abundant as usual.
- Ohio. T. H. Parks (July): We are getting reports from many sections of the State of the injury that has been done to tomato fruits. The insect is also being found in the heart leaves and tassels of sweet corn. Heavy injury is expected to sweet corn from the later generation of larvae. Greenhouse men in Cuyahoga County are preparing to screen their greenhouses against the moths to protect the October and early winter tomato crop. These men suffered heavy loss to greenhouse tomatoes last fall.
- Indiana. L. Pierce (July 13): The early tomato crop, an important commercial crop in Knox County, is threatened with almost complete destruction on account of a very heavy infestation. Some fields were abandoned at the beginning of the picking season. In sorting over an entire truck load in one instance it was found that only 1 bushel was fit for market.
- H. O. Deay (July 25): Corn ear worm reported feeding in curl of field corn at Shoals, July 1, and Evansville, July 8; attacked bean pods at Elkhart, July 15, and at Paoli, July 16. Specimens feeding in stem of tomato were found at Lafayette, July 18. Many reports of serious injury to ears of sweet corn were received from throughout the State.
- Kentucky. W. A. Price (July 26): The corn ear worm continues to be a serious pest generally over the State on corn and tomatoes.
- Michigan. E. I. McDaniel (July 13): The corn ear worm is just beginning to give trouble in Michigan. Practically all sweet-corn growers in the vicinity of Monroe are suffering from a 50 to a 75 per cent infestation. Growers from Grand Rapids report heavy losses on sweet corn in the field and from tomatoes under glass. Yesterday we received a number of corn ear worms from Sparta where they were working on pop-corn. This particular crop is rather slow and the worms were working in the tassel. They are fully two-thirds grown. At Monroe many of the larvae are ready to pupate.

R. Hutson (July 22): We have been having quite a heavy infestation by the corn ear worm, and it is at present working at Monroe, St. Joseph, Coloma, East Lansing, Bath, Sparta, Grand Rapids, Kent City, Allegan, East Saugatuck, and Fennville. All of these reports came in between the 13th and the 22d of July. I have seen specimens from several of these places, and in all cases the corn ear worm is penetrating the sides of the ear through the husk and chewing the tassel while still rolled among the leaves.

Louisiana. C. E. Smith and P. K. Harrison (June 29): The species was unusually scarce in the vicinity of Baton Rouge during June, as determined by field observations made from time to time. On tomato and field corn only an occasional worm was found. One field of sweet corn under observation had an infestation of 50-60 per cent. Sweet corn is normally infested 100 per cent.

Mississippi. C. Lyle and assistants (July): The corn ear worm was very abundant on tomatoes in the seven northwestern counties and also doing considerable damage to tomatoes and corn throughout the northern part of the State. (Abstract, J.A.H.)

ZEBRA CATERPILLAR (Mamestra picta Harr.)

Nebraska. D. B. Whelan (July 20): Zebra caterpillars have been found feeding on eggplant and cabbage.

BLISTER BEETLES (Meloidae)

Vermont. H. L. Bailey (July 26): Say's blister beetle (Pomphopoea sayi Fab.) extremely abundant feeding on blossoms of delphinium at Barre, June 28. The gray blister beetle (Epicauta cinerea Forst.) has been reported on potato and also on monkshood and delphinium from various sections of the State, including Vernon, Barre, Craftsbury, and Sheldon.

Pennsylvania. J. N. Knull (July 16): Macrobasis unicolor Kby. has been defoliating the black locust seedlings in the Mont Alto nursery.

North Carolina. Z. P. Metcalf (July 6): The gray blister beetles, E. cinerea, are very bad on cowpeas in Cumberland County, feeding especially on buds and flowers.

Ohio. E. W. Mendenhall (July 8): E. pennsylvanica DeG. was very numerous on the small flowers of the Siberiana Pea (Caragana) plants in a nursery at Newark.

Florida. J. R. Watson (July 26): Blister beetles, E. vittata Fab., have been troublesome to peppers, especially in Alachua County.

Indiana. H. O. Deay (July 25): Blister beetles are very abundant throughout the State, especially from Lafayette northward. Three species, E. vittata, E. marginata Fab. and E. pennsylvanica, seem to be doing most of the damage. The first ones were received at the office July 7. A variety of plants are being attacked, with potatoes, tomatoes, and beets bearing the brunt of the injury.

Minnesota. A. G. Ruggles (July 26): The big bronze blister beetle, Lytta nuttalli Say, is very abundant in the northern part of the State, destroying beans.

A. A. Granovsky (June 23): The ash-gray blister beetle, M. unicolor, appeared in very large numbers in a new alfalfa field, also in cities, infesting black locust, caragana hedges, and other leguminous plants.

North Dakota. J. A. Munro (July 18): Nuttall's blister beetle, L. nuttalli, is generally distributed and causing severe injury to caragana and beans.

Iowa. H. E. Jaques (July): Blister beetles are very abundant in Floyd County

Alabama. J. M. Robinson (July 18): Blister beetles are very abundant on O-To-Tan Beans at Hayleyville, corn at West Blocton, and tomatoes at Marion.

Louisiana. P. K. Harrison (June 24): E. lemniscata Fab. is doing considerable damage to carrot and is also feeding on Amaranthus sp.

Mississippi. C. Lyle and assistants (July): Blister beetles, including E. vittata, and M. unicolor, have been reported as injuring soybeans and truck crops in scattered localities.

Nebraska. D. B. Whelan (June 20 to July 20): In a potato field west of Bushnell, Kimball County, the blister beetle Meloe impressus Kby. was reported as doing damage about the middle of July.

M. H. Swenk (June 20 to July 20): From several scattered counties in Nebraska, between Pawnee and Lincoln Counties, the striped blister beetle E. lemniscata was reported as abundant and injurious during the second week in July.

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Alabama. M. M. High (June 28): The following counties in Alabama have recently been found infested with the vegetable weevil: Hale, Bibb, Shelby, Chilton, Elmore, Autauga, Lowndes, Monroe, and Perry. This makes 39 infested counties in Alabama.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon. D. C. Mote (July 23): Quite injurious to garden crops in various sections of the Willamette Valley. (B. G. Thompson)

FALSE CHINCH BUG (Nysius ericae Schill.)

North Carolina. W. A. Thomas (July 18): These insects have become extremely abundant on some fields of berries at Chadbourn during the past few weeks and are apparently inflicting serious injury. Two hundred and ninety-eight adults and nymphs were taken from a single hill of strawberries. Several of the native weeds show a rather heavy infestation, principally of nymphs, at this time.

Minnesota. C. E. Mickel (June 21): The false chinch bug is very abundant at Mankato, injuring huckleberry.

Arizona. A. H. Caldwell (July 5): The false chinch bug seems to be all over the State in great swarms, and has done damage to all green stuff bordering fields or lots of wild mustard.

TARNISHED PLANT BUG (Lygus pratensis L.)

New York. N. Y. State Coll. of Agr., Weekly News Letter (July): The tarnished plant bug is doing considerable damage to potatoes in western New York. (Abstract, J.A.H.)

Michigan. R. Hutson (July 8): The tarnished plant bug is numerous in fields of celery at Decatur.

APHIDS (Aphididae)

Wisconsin. E. L. Chambers and assistants (July): Aphids are more abundant than they have been for many years on all truck crops. (Abstract, J.A.H.)

THRIPS (Thysanoptera)

North Carolina. W. A. Thomas (July 20): These insects are extremely abundant in the blooms of snap beans at Clarendon. The beans have been blooming for several weeks and to date no fruit has been set. Whether this failure is due to prevailing dry weather or to the unusual abundance of thrips has not yet been determined.

CRICKETS (Gryllidae)

North Carolina. W. A. Thomas (July 22): There is an unusual abundance of field crickets in the strawberry fields at Chadbourn. It is hard to determine just what damage is being done, as the runner plants have not begun to develop to any extent. The principal injury seems to occur a little later in the season when the runners are chewed off from the mother plants before the young plant roots in the soil. These insects are reported as injuring tomato fruit, cantaloupe, and a few other fruits in this section.

North Dakota. J. A. Munro and assistants (July): The black field cricket was reported as quite abundant over the greater part of the State. (Abstract, J.A.H.)

Mississippi. C. Lyle and assistants (July): Crickets, species Anurogryllus muticus DeG., have been injuring cotton in one community at Meridian, Lauderdale County, and cotton and peanuts in Neshoba County. (Abstract, J.A.H.)

CHANGA (Scapteriscus vicinus Scudd.)

Texas. Mrs. E. L. Coker (May 10): One adult female collected May 10, 1932, on plants and flowers in Orangefield, Orange County. (Det. by A. N. Caudell)

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- New York. N. Y. State Coll. Agr., Weekly News Letter (July): The Colorado potato beetle, although present in noticeable numbers throughout the State, it is not so serious as it was last year. (Abstract, J.A.H.)
- New Jersey. T. J. Headlee, R. C. Burdette, and C. H. Nissley (July): Although Colorado potato beetles were still present in considerable numbers, the situation did not change much during the month. (Abstract, J. A. H.)
- Georgia. O. I. Snapp (July 11): Very abundant on eggplant at Fort Valley.
- Florida. J. R. Watson (July 26): The Colorado potato beetle was doing considerable damage to eggplant in Alachua County.
- Wisconsin. E. L. Chambers and assistants (July): The Colorado potato beetle is unusually abundant in all parts of the State. (Abstract, J.A.H.)
- Minnesota. A. G. Ruggles (July 26): Colorado potato beetles are very abundant over the State.
- Iowa. H. E. Jaques (July): This insect is appearing from moderately to very abundant over the State.
- Nebraska. M. H. Swenk (June 20 to July 20): The Colorado potato beetle has been more than usually abundant upon potatoes in all parts of the State, including the irrigated and dry land potato districts of western Nebraska, during the period here covered.
D. B. Whelan (June 20 to July 20): The Colorado potato beetle was abundant in all stages on eggplant at Lincoln in July.
- Mississippi. C. Lyle and assistants (July): The Colorado potato beetle was very abundant in several northwestern Counties of the State. (Abstract, J. H.)
- Colorado. G. M. List (July 23): Colorado potato beetles are much more abundant than usual.
- Idaho. R. W. Haegle (July 26): The Colorado potato beetle is somewhat more abundant in southwestern Idaho than in 1931. The spread has been slight, the only new territory infested in 1932 being Owyhee County.
- Utah. G. F. Knowlton (July 21): The Colorado potato beetle has not been found in Utah so far this year.

THREE-LINED POTATO BEETLE (Lema trilineata Oliv.)

- Connecticut. D. S. Lacroix (July 1): The three-lined potato beetle is more abundant at Windsor this season than last and is more plentiful than the Colorado potato beetle.

POTATO FLEA BEETLE (Epidrix cucumeris Harr.)

Connecticut. N. Turner (July 22): The adults have been emerging for several days. Considerable damage was done to drought-injured potatoes in the southern part of the State.

North Dakota. E. J. Taintor (July 13): Potato flea beetles are abundant.

Colorado. G. M. List (July 23): The potato flea beetle is very abundant in Weld and Morgan Counties.

TOMATO PIN WORM (Gnorinoschema lycopersicella Busck)

Florida. J. R. Watson (July 26): An insect which gave much trouble to the tomato growers about Bradenton in the late spring was bred out and identified as G. lycopersicella Busck. (Det. A. Busck)

HORNWORMS (Phlegethontius spp.)

Delaware. L. A. Stearns (July 22): P. sexta Johan. on tomato at Houston.

New Jersey. T. J. Headlee, R. C. Burdette, and C. H. Nissley (July): Severe damage by the tomato hornworm (P. quinquemaculata Haw.) was occasioned during the latter half of July in unsprayed tomato fields and pepper in the southern part of the State. (Abstract, J.A.H.)

Florida. F. S. Chamberlin (July 8): The abundance of the tobacco hornworm (P. sexta) appears to be about normal to date, in Gadsden County on tobacco.

Nebraska. D. B. Whelan (June 20 to July 20): P. sexta was found on eggplant in Lincoln.

Mississippi. J. P. Kislanko (July 20): Tomato hornworms (P. sexta) defoliated 50 per cent of the tomato plants in one field near Hattiesburg.

POTATO APHID (Illinoia solanifolii Ashm.)

New Jersey. T. J. Headlee, R. C. Burdette, and C. H. Nissley (July): The potato aphid was comparatively scarce on potatoes but was quite abundant on tomato throughout the month. (Abstract, J.A.H.)

North Dakota. J. A. Munro (July 18): The potato aphid is moderately abundant on potatoes at Fargo.

AN APHID (Megoura amphorophora solani Thos.)

Minnesota. A. A. Granovsky (July 11): The tomato aphid, M. solani, is very abundant and causes a great deal of injury directly and indirectly by spreading the mosaic diseases.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Vermont. H. L. Bailey (July 26): Potato leafhoppers are moderately abundant in Windham County.

Connecticut. N. Turner (July): Nymphs are injuring bush lima beans and green beans of the Black Valentine variety at Mt. Carmel. Not so abundant on Beautiful beans.

New York. N. Y. State Coll. of Agr., Weekly News Letter (July): The potato leafhopper was abundant throughout the State and some hopperburn was noticeable during the last part of the month. (Abstract, J.A.H.)

Michigan. R. Hutson (July 23): The potato leafhopper is very abundant.

Wisconsin. E. L. Chambers and assistants (July): The potato leafhopper is appearing quite generally wherever potatoes are grown. (Abstract, J.A.H.)

Minnesota. A. A. Granovsky (July 11): Potato leafhoppers are just beginning to appear in large numbers in potato fields near St. Paul. Climatic conditions so far were not so favorable for development as they were last year at this time.

North Dakota. E. J. Taintor (July 13): Leafhoppers are abundant on potatoes in Walsh County.

Iowa. H. E. Jaques (July): The potato leafhopper is from moderately to very abundant over most of the State.

TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

Colorado. G. M. List (July 23): The tomato psyllid is moderately to very abundant in eastern Colorado and less abundant in the western part of the State. It caused very noticeable injury to tomatoes in the Arkansas Valley. The early potato crop in Weld and Morgan Counties was a loss of from 25 to 95 per cent on account of the psyllid yellows. Some psyllid yellows is showing on the late potatoes in these counties.

Utah. G. F. Knowlton (July 21): Potato psyllids are still causing serious damage to potatoes in many parts of Utah, while the crop is almost unaffected in other localities. (July 25): Potatoes in several parts of Davis and Weber Counties are being seriously damaged. On the Davis County Experimental Farm at Farmington from 500 to 1,000 nymphs have been counted per hill in a number of cases.

EGGPLANT

EGGPLANT LACEBUG (Gargaphia solani Heid.)

Maryland. C. H. Hanson (July 18): The insects are so serious on our eggplant at Forest Glen that we are thinking of giving up our attempts to grow this vegetable.

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Indiana. H. O. Deay (July 25): A new generation of adult flea beetles were appearing on eggplant at Lafayette, July 16. Undusted plants were nearly defoliated by July 22.

Nebraska. D. B. Whelan (June 20 to July 20): Eggplant leaves were being badly riddled by the flea beetle in Lincoln.

A LEAF BEETLE (Gratiana pallidula Boh.)

Nebraska. D. B. Whelan (June 20 to July 20): Cassida pallidula was found on eggplant in Lincoln.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

New Hampshire. L. C. Glover (July 23): On June 22 two adults were found feeding on field beans in East Westmoreland. First-generation larvae and newly-formed pupae were found in Nashua on July 19, and since that time larvae have been found in Marlboro, Cheshire, Hinsdale, Hollis, Wilton, and Concord. First-generation adults were found in Hollis on July 22. Apparently the beetle is generally distributed in southwestern New Hampshire.

Vermont. H. L. Bailey (July 26): Mexican bean beetles are very abundant at Brattleboro and Vernon; moderately abundant so far at Putney, and reported in Newfane.

Massachusetts. A. I. Bourne (July 26): Mexican bean beetle has been much more abundant in the sections of the State now infested than was the case last year. This is particularly true of the lower half of the Connecticut Valley. In Hamden County in fields which were not protected by spray or dust during the early season, the beetles have practically stripped the plants and rendered the crop worthless. By the middle of July the first-brood larvae were maturing and numerous pupae were found. At the present time the adults of the first summer brood are beginning to appear in considerable numbers. The infestation is not quite so serious in the eastern part of the State and in the more northern sections where the species has more recently established itself, but present indications point to a rather heavy infestation during the later broods and the danger of considerable injury if prompt measures for control are not put into effect.

Rhode Island. A. E. Stene (July 23): The Mexican bean beetle is very abundant and generally distributed.

Connecticut. N. Turner (July 22): The first-generation adults are now appearing. First-generation damage was general and severe on garden beans.

New York. N. Y. State Coll. of Agr., Weekly News Letter (June 27): The Mexican bean beetle is more generally distributed and is doing more damage here than ever before in Greene County.

Pennsylvania. J. N. Knull (July 16): The Mexican bean beetle is very abundant in Franklin County this year. The overwintering adults and first-generation larvae have done an immense amount of damage to beans in gardens.

Maryland. E. N. Cory (July 21): The Mexican bean beetle is very abundant.

Virginia. H. G. Walker (July 27): The Mexican bean beetle is moderately abundant.

North Carolina. R. W. Leiby (July 11): This pest has been more destructive thus far this season than ever in its history. Damage and destruction include acres of snap beans grown on a commercial scale. They have not been limited to gardens.

South Carolina. A. Lutken (July 25): The Mexican bean beetle is very abundant generally.

Georgia. C. H. Alden (July 18): The Mexican bean beetle is very abundant at Cornelia, where it is ruining snap beans where no **control** measures have been applied.

Ohio. T. H. Parks (July 23): This insect is very abundant and doing great damage all over Ohio. Many bean plantings have been ruined.

Indiana. H. O. Deay (July 25): The Mexican bean beetle is very abundant over the whole State except the northwestern part. Over 40 inquiries from county agents in regard to its control were received, most of these coming from the northern and central western part of the State where it has done very little commercial damage until this season. Considerable damage is being done at Lafayette, although but one beetle had ever been taken there until this season.

Illinois. W. P. Flint (July 20): This beetle was found at a number of points in eastern Illinois as far west as Urbana. The Mexican bean beetle is causing some damage to beans in these sections. This insect was first found in Edwards County at Albion on June 6. On June 16 it was located again at Albion, Lawrenceville, and Mt. Carmel. Beetles were found in Robinson, Crawford County, on June 21. July 7 first beetles were found in Urbana, Champaign County.

Kentucky. W. A. Price (July 26): The Mexican bean beetles have been troublesome over the State generally during the past month.

Michigan. E. I. McDaniel (July 6): Today we received a sample of the Mexican bean beetle from Decatur which is very near the west coast of the State. This is the first time the beetle has appeared in the western part of the State.

Alabama. J. M. Robinson (July 18): The Mexican bean beetle is moderately abundant at Auburn and LaFayette.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Wisconsin. E. L. Chambers and assistants (July): The pea aphid is very seriously affecting the canning crop in 25 counties in east-central and northeast

ern Wisconsin. In places the late crop has been totally destroyed and a large part of the early crop damaged. (Abstract, J.A.H.)

Minnesota. A. A. Granovsky (July 11): The pea aphid practically ruined some of the canning peas in the southeastern part of the State.

North Dakota. J. A. Munro (July 18): The pea aphid situation much improved since last report. Aphid enemies have checked its development.

Nebraska. M. H. Swenk (June 20 to July 20): In Cuming and other counties, during the latter part of June, sweet peas were attacked to a serious extent.

Utah. G. F. Knowlton (June 30): Pea aphids are moderately abundant to rather abundant on field peas and alfalfa in many parts of Weber County.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

Indiana. H. O. Deay (July 25): The imported cabbage worm is very abundant over the entire State.

Michigan. R. Hutson (July 23): The imported cabbage worm is very abundant.

Wisconsin. E. L. Chambers and assistants (July): The imported cabbage worm is very abundant throughout the State. (Abstract, J.A.H.)

Minnesota. A. A. Granovsky (July 11): The imported cabbage worm is moderately abundant in most of the cabbage fields.

Nebraska. D. B. Whelan (June 20 to July 20): The cabbage worm has been more than usually troublesome on cabbage in all parts of the State during the period here covered. At Lincoln this species formed 79 per cent of all the caterpillars collected on cabbage. It completely killed newly-set fall cabbage plants. The peak of pupation of the worms collected occurred on July 20.

Utah. G. F. Knowlton (July 21): Larvae are doing their usual damage in northern Utah.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Minnesota. A. A. Granovsky (July 11): Very abundant in some cabbage, rape, and cauliflower fields and doing considerable damage.

Oregon. D. C. Mote (July 23): There is a very serious infestation throughout the entire lower Willamette Valley and coast counties on rape, cauliflower, turnips, cabbage, etc.

CABBAGE LOOPER (Autographa brassicae Riley)

Nebraska. D. B. Whelan (June 20 to July 20): The cabbage looper constituted 20 per cent of all the worms found on cabbage at Lincoln. This species caused quite a little damage to newly-set fall cabbages.

Colorado. G. M. List (July 23): The cabbage looper is moderately abundant in the mountain-head-lettuce and pea-growing regions. The second brood is causing considerable injury at this time.

Minnesota. A. A. Granovsky (July 11): The cabbage looper is common.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Maryland. E. N. Cory (July 20): The harlequin bug is very injurious on cabbage and other cucurbits in southern Maryland.

West Virginia. L. M. Peairs (July 21): I wish to call your particular attention to the harlequin bug which has not appeared on a West Virginia report for possibly 15 years. I have records of these insects in injurious numbers from the following counties: Cabell, Mason, Lincoln, Wyoming, Pendleton, and Jefferson, all within the past week or ten days. One report states that a few were seen in the late summer of 1931. It is probable that the mild winter permitted the late summer migrants of 1931 to survive in sufficient numbers to cause the infestation.

North Carolina. W. A. Thomas (July 15): A large brood of adults, which emerge a few weeks ago at Chadburn, have begun laying eggs heavily and in some cases the young nymphs are developing. Some plots of collards in this vicinity have already been completely destroyed and many others have nothing left except the small green bud. No parasitism has yet been observed.

Georgia. O. I. Snapp (June 23): M. histrionica is abundant this year; ruined a field of collards at Byron.

Kentucky. W. A. Price (July 26): Harlequin bugs have been reported doing damage at Brandenburg, Hodgenville, Owensboro, Barbourville, Berea, Elizabethtown, and Clinton.

Alabama. J. M. Robinson (July 18): The harlequin bug is moderately abundant on collards, turnips, and tomatoes at Auburn and Tuscaloosa.

Colorado. G. M. List (July 23): The harlequin bug is moderately abundant in southern Colorado.

New Mexico. J. R. Eyer (July 5): The harlequin bug is very abundant all over the State.

Texas. F. L. Thomas (July 16): The harlequin bug is very injurious to cabbage in Castro County of the panhandle area.

CABBAGE APHID (Brevicoryne brassicae L.)

Minnesota. A. A. Granovsky (July 11): The cabbage aphid is very abundant and troublesome.

Nebraska. M. H. Swenk (June 20 to July 20): In western Nebraska, from Dawes County to Dundy County, cabbage growers found their plants heavily attacked by the cabbage aphid and related species, during the middle of July.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Indiana. H. O. Deay (July 25): Many inquiries were received from throughout the State in regard to the control of the striped cucumber beetle, from June 24 to July 10.
- Kentucky. W. A. Price (July 26): Striped cucumber beetle larvae were doing much damage to the underground portion of the vines of watermelon and cucumber at Hopkinsville and Flemingburg.
- Michigan. R. Hutson (July 23): The striped cucumber beetle is very abundant.
- Wisconsin. E. L. Chambers and assistants (July): The striped cucumber beetle is reported as very abundant in practically every county. In Door County it destroyed practically all cucumbers. (Abstract, J.A.H.)
- Minnesota. A. G. Ruggles (July 26): Striped cucumber beetles are very abundant all over the State.
- North Dakota. J. A. Munro (July 18): Striped cucumber beetles are moderately abundant and widely distributed.
- Nebraska. D. B. Wholan (July 20): Adults have killed many cucumber plants.

MELON APHID (Aphis gossypii Glov.)

- Indiana. H. O. Deay (July 25): The melon aphid was reported attacking muskmelon at Swayzee, July 8.
- Minnesota. A. A. Granovsky (July 11): The melon aphid is very common and doubtless will do much damage before the season is over.
- Nebraska. M. H. Swenk (June 20 to July 20): A great deal of trouble was experienced by growers of cucumbers and melons in southern and southeastern Nebraska counties from June 21 to this day, July 21.
- Kansas. H. R. Bryson (July 20): The melon aphid is abundant on cucumbers and melons in southwestern and central Kansas.

PICKLE WORM (Diaphania nitidalis Stoll)

- South Carolina. A. Lutken (July 25): Pickle worms have been very abundant in the vicinity of Clemson College.
- Alabama. J. M. Robinson (July 18): The pickle worm is very abundant in Auburn on pickles and cantaloupes.
- Mississippi. J. Milton (July 20): The pickle worm is abundant on cantaloupes in Hinds County.

MELON WORM (Diaphania hyalinata L.)

- South Carolina. A. Lutken (July 25): Melon worms have been very abundant in the vicinity of Clemson College.

Alabama. J. M. Robinson (July 18): Melon worms are very abundant on cantaloupe.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

North Carolina. R. W. Leiby (July 11): The squash bug is present in more than average numbers.

South Carolina. A. Lutken (July 25): Squash bugs have been very abundant in the vicinity of Clenson College.

Alabama. J. M. Robinson (July 18): Squash bugs are very abundant on watermelon at Seal and on squash at Auburn.

Iowa. H. E. Jaques (July 24): Squash bugs are moderately abundant in Boone County.

Nebraska. D. B. Whelan (July 20): Eggs of this insect are abundant in gardens on squash. Some eggs have hatched, probably 3 or 4 days ago. Mostly in egg stage.

M. H. Swenk (July 20): From June 24 to date the squash bug has been unusual troublesome on cucurbits, especially squashes, in all parts of the State.

Kansas. H. R. Bryson (July 18): Squash bugs are moderately abundant at Manhattan, as well as in other localities where cucurbits are grown.

Utah. G. F. Knowlton (July 12): Squash bugs are now causing serious damage in some fields at American Fork.

New Mexico. J. R. Ever (July 5): The squash bug is moderately abundant in the Rio Grande Valley.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Michigan. R. Hutson (July 8): The onion thrips is causing considerable damage in fields of sweet corn near Marysville.

Nebraska. D. B. Whelan (July 20): T. tabaci is very abundant in many onion beds at Lincoln in spite of efforts at control.

Colorado. G. M. List (July 23): The onion thrips is very abundant in the Arkansas Valley and northern Colorado.

Oregon. D. C. Mote (July 23): Onion thrips are appearing in considerable numbers and doing some damage in the Willamette Valley.

SWEETPOTATO

TORTOISE BEETLES (Cassidinae)

Delaware. L. A. Stearns (July 22): (Cassida) Metriona bivittata Say was reported at Laurel on July 6; it had practically ruined a 48-acre field of sweetpotato.

toes; adjoining fields were lightly to moderately infested.

Maryland. E. N. Cory and Staff (July): Tortoise beetles (Chelymorpha cassidea Fab.) are especially abundant.

Indiana. H. O. Deay (July 25): Tortoise beetles were reported to be doing severe damage to sweetpotatoes in Vincennes July 2.

Mississippi. C. Lyle (July 20): Specimens of M. bivittata and Chirida guttata Oliv. were received from Oxford on June 30 with a report that these beetles were abundant on sweetpotato plants.

SWEETPOTATO WHITEFLY (Bemisia inconspicua Quaint.)

Florida. J. R. Watson (July 26): The sweetpotato whitefly (B. inconspicua) is attacking sweetpotatoes in Alachua and other counties.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancyliis comptana Froel.)

North Carolina. W. A. Thomas (July 18): While examining strawberry plants at Chadbourn for false chinch bugs it was observed that an unusual number of strawberry leaf rollers had developed on the plants. Pupal skins were very abundant about these plants and a few adults were observed.

Nebraska. D. B. Whelan (July 20): The peak of abundance of the second-brood larvae of the strawberry leaf roller was from July 12 to 25. The first pupa of this generation formed on July 20.

Kansas. H. R. Bryson (July 20): The strawberry leaf roller is reported as causing severe damage in the vicinity of Topeka and also is causing damage in eastern Doniphan County.

SUGAR BEETS

BEEF WEBWORM (Loxostege sticticalis L.)

North Dakota. J. A. Munro and assistants (July): The beet webworm was quite abundant in Burke, Mountrail, Bottineau, Williams, and McKenzie Counties during the third week in the month. (Abstract, J.A.H.)

F. D. Butcher (July 11): In Benson County, Saturday, I saw some damage to flax by the sugar-beet webworm. It had cleaned out the Russian thistles and had then attacked the flax; the infestation had taken about 15 acres and ran about 3 caterpillars to each yard of flax row. I think all of them were younger than the last instar.

Colorado. G. M. List (July 23): The second-brood beet webworm moths and alfalfa webworm (L. cornixtalis Walk.) are moderately abundant in northern Colorado at this time.

Utah. G. F. Knowlton (July 21): The sugar beet webworm is doing serious damage in many parts of Utah. Beets and alfalfa are most seriously affected. Con-

siderable spraying is being done in Cache, Utah, Rich, Dagget, Carbon, and Salt Lake Counties.

MINT

MINT LEAF BEETLE (Longitarsus methaphagus Gent.)

Indiana. H. O. Deay (July 25): Adults appeared at Warsaw, July 8. The larvae have caused considerable injury throughout the northern part of Indiana. The beetles are common everywhere and were abundant in certain ecological areas July 21, (G. E. Gould)

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Florida. F. S. Chamberlin (July 4): A very large third brood of flea beetles, emerged in tobacco fields in Gadsden County where early control measures were not thoroughly applied.

Indiana. H. O. Deay (July 25): The tobacco flea beetle was reported to be doing serious injury to tobacco at Lawrenceburg, June 29.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Connecticut. D. Lacroix (July 15): The tobacco thrips is more widespread than at any time in the past three years. It is occurring on shade-grown Havana seed, and broadleaf tobacco in West Granby, Windsor, East Hartford, and Manchester.

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

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

New York. E. P. Felt (July 26): The bagworm is locally abundant in Westchester County.

Pennsylvania. J. N. Knull (July 22): The bagworm is very abundant on black locust and arborvitae in Cumberland, Adams, and Franklin Counties.

Delaware. L. A. Stearns (July 22): Bagworms were reported from Newark on arborvitae, July 9, and from Yorklyn and Wyoming the 14th and 19th respectively.

Maryland. Press release, Extension Service, Univ. of Md. (July 18): Property owners are suffering more than usual damage to their trees and shrubs this season through injury by bagworms.

Ohio. E. W. Mendenhall (July 18): Infestation is very severe in Columbus and vicinity.

Indiana. H. O. Deay (July 25): Bagworms were reported attacking boxelder and maple at Indianapolis, July 12, and apple and arborvitae at Evansville, July 19. Defoliating cottowood throughout the southern part of the State, July 16.



BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Connecticut, New York, and Pennsylvania. E. P. Felt (July 25): The black vine weevil continues abundant, injuring plants here and there, notably at Stamford, Conn., Mamaroneck, N. Y., and Philadelphia, Pa.

APHIDS (Aphidae)

Minnesota. A. A. Granovsky (July 11): Shade trees and shrubs are badly infested with various species of aphids: Monellia caryae Monell, M. caryella Fitch, M. nigropunctata Granovsky attacking black walnuts; and Myzocallis discolor Monell, M. alhambra Davidson, Myzocallis tuberculatus punctatella Fitch attacking oak; and Myzocallis tuberculatus ulmi-folii Monell attacking elm.

BIRCH

BRONZE BIRCH BORER (Agrilus anxius Gory)

Maine. H. B. Peirson (July 21): Ornamental birch throughout the State is gradually being destroyed.

Indiana. H. O. Deay (July 25): Specimens which attacked cutleaf birch were received from Seymour, June 29.

Minnesota. A. A. Granovsky (July 11): Bronze birch borers on cutleaf birch are very common, killing trees growing in open places.

BIRCH CASE BEARER (Coleophora salmani Heinr.)

Maine. H. B. Peirson (July 21): Heavy outbreaks in Bar Harbor, Winter Harbor, and towns in between were reported July 18.

BIRCH SKELETONIZER (Bucculatrix canadensisella Chamb.)

Maine. H. B. Peirson (July 21): Birch skeletonizer observed July 18. This insect promises to be very severe again this year.

BIRCH LEAF MINER (Fenusa pumila Klug)

Connecticut. R. B. Friend (July 25): Abundant on gray and white birches throughout the State.

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fallen)

Maine. H. B. Peirson (July 21): Adults of the birch leaf miner are emerging in great quantities over much of the State.

CATALPA

CATALPA SPHINX (Ceratonia catalpae Bdv.)

Delaware. L. A. Stearns (July 22): The catalpa sphinx was reported from Newark July 1.

Pennsylvania. E. P. Felt (July 25): The catalpa sphinx has been locally abundant in the Philadelphia area.

Ohio. E. W. Mendenhall (July 8): Caterpillars are very numerous in central and southern Ohio, doing considerable damage to catalpa trees, especially Catalpa bungei in ornamental plantings. Many places they had stripped the leaves off before the owner or caretaker was aware of it.

Indiana. H. O. Deay (July 25): Many catalpa trees in the northern part of the State have been completely defoliated.

Kentucky. W. A. Price (July 26): The catalpa sphinx has been rather abundant in Scott and Fayette Counties.

CYPRESS

A CYPRESS SAWFLY (Susana cuoressi Roh. & Middleton)

California. H. J. Ryan (April 19): This recently-described species (Proc. Ent. Soc. Wash. 34: 94, 1932), first recorded in 1931 from Ventura and Los Angeles Counties, was reported as active during late April of this year on Arizona and Monterey cypress at New Hall and San Gabriel, Los Angeles County.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Vermont. H. L. Bailey (July 26): The elm leaf beetle is reported as unusually abundant at Rutland. Moderate feeding was noted as far north as Windsor in the Connecticut River Valley.

New Hampshire. L. C. Glover (July 23): The elm leaf beetle, which was reported as doing a great deal of damage last year, is very scarce this year.

Connecticut. R. B. Friend (July 25): Quite common throughout the State; unsprayed trees are beginning to show brown.

Massachusetts. J. V. Schaffner, jr. (July 21): Thousands of elm trees are being seriously damaged in eastern Massachusetts, more especially in localities where the shade trees are not protected by spraying. Large numbers of larvae were pupating on July 15 at Danvers and Woburn. On July 19 a few adults were seen at Woburn.

Delaware. L. A. Stearns (July 22): The elm leaf beetle was reported at Rockland, July 1.

Maryland. E. N. Cory (July 20): There is a general outbreak throughout the State south and east of Baltimore.

New England and New York. E. P. Felt (July 26): The elm leaf beetle is general and severe, though sporadic injury is evident in southern and eastern New England, and in southern New York.

Ohio. E. W. Mendenhall (July 19): A severe outbreak is occurring on Main and Lagonda Streets in Springfield on about a dozen elm trees.

Kansas. H. R. Bryson (July 20): R. L. Farner reports slight defoliation of elm in Manhattan.

Oregon. D. C. Mote (July 23): B. G. Thompson reports that the elm leaf beetle is not so serious as it has been in previous years.

Washington. E. J. Newcomer (July 21): This beetle has appeared on elm trees in Yakima. It first appeared in the lower end of the Yakima Valley last year, and is reported as very common there this season.

A BARK BEETLE (Scolytus multistriatus Marsh.)

Pennsylvania. J. N. Knull (July): The European elm bark beetle was found working in injured Chinese elms in the vicinity of Philadelphia. The trees had been shipped from the West.

ELM BORER (Saperda tridentata Oliv.)

Ohio. E. W. Mendenhall (July 19): A number of infested American elm trees in Livingston Park in Columbus are dead and dying from the effects of the elm borer.

WOOLLY ELM APHID (Eriosoma americanum Riley)

Maine. H. B. Peirson (July 21): Very heavy outbreaks were occurring throughout central Maine, June 22. Automobiles coated with the honeydew causing much comment.

Nebraska. M. H. Swenk (July 20): Complaints of the curling of the leaves of elm continued to be received until nearly the end of June.

A SAC GALL (Tetraneura ulmisacci Patch)

Massachusetts. E. P. Felt (July 25): The elm sac gall was reported on English elm from West Tisbury, Martha's Vineyard.

A MITE (Eriophyes ulmi Garm.)

Nebraska. M. H. Swenk (July 20): Heavy infestations of elm trees at York with the elm pocket gall were reported during the last week in June.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Maine. H. B. Peirson (July 21): European elm scale infestation fairly heavy in Augusta and Bangor, June 20.

FIR

AN APHID (Dreyfusia piceae Ratz.)

Maine. H. B. Peirson (July 21): This European insect, which has invaded Maine from New Brunswick, is killing considerable fir along the coast and this

year spot outbreaks are being found in the Maine Forest district 80 to 100 miles from the coast.

BALSAM FIR WEEVIL (Pissodes dubius Band.)

Maine. H. B. Peirson (July 21): Fir in many parts is dying from attacks of this beetle. The early drought probably has much to do with the attack.

HEMLOCK

HEMLOCK BARK BORER (Melanophila fulvoguttata Harr.)

Pennsylvania. J. N. Knull (July): In the last couple of years the spotted hemlock borer has played an important part in the death of many hemlock trees throughout the State. Exit burrows were observed in many trees containing green foliage.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

New England. J. V. Schaffner, jr. (July 21): Moths were noted June 2 to 30 inclusive. On July 12, on ten twigs, each 5 inches in length, a total of 630 eggs were found at Bowdoinham.

Maine. H. B. Peirson (July 21): During the pupal, adult, and egg stages of this insect, the larch is putting out new growth. Heavily infested stands now appear green.

LARCH SAWFLY (Lygaeonematus erichsoni Htg.)

Maine. H. B. Peirson (July 21): The larch sawfly was quite abundant at Whiting, June 21.

Maine and Massachusetts. J. V. Schaffner, jr. (July 21): Larvae were reported in abundance on larch during the first half of July at Bowdoinham, Me., and Lunenburg and North Andover, Mass. At Melrose, Mass., adults from the hibernating cocoons issued during late April, May, and to June 21, inclusive.

LINDEN

LINDEN LACEBUG (Gargaphia tiliae Walsh)

Massachusetts. E. P. Felt (July 25): This lacebug has severely injured linden leaves at Stockbridge. The damage is exceedingly severe, practically entire leaves being discolored and the undersides have large, thick patches of eggs with a diameter of nearly an inch.

LINDEN WART GALL (Cecidomyia verrucicola O. S.)

Massachusetts. E. P. Felt (July 25): The linden wart gall is very abundant on linden at Northampton.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

Minnesota. A. A. Granovsky (July 11): Locust borers on black locust are very common, killing trees growing in open places.

Indiana. H. O. Deay (July 25): The locust borer was reported seriously damaging black locust at Gary, June 28.

MAPLE

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

Nebraska. M. H. Swenk (July 20): A severe local outbreak occurred in Burt County near Tekamah, the middle of July.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Ohio. T. H. Parks (July 25): We are receiving complaints from western Ohio towns about the cottony maple scale on soft maples. This infestation has existed for several years and centers in Mercer and Darke Counties on the Indiana-Ohio line.

Indiana. H. O. Deay (July 25): Specimens of the cottony maple scale which were severely attacking a soft maple were received from Shipshewana, June 27, and from Marion, July 11.

Nebraska. M. H. Swenk (July 20): The last complaint of the cottony maple scale came from Keith County under date of July 12.

GLOOMY SCALE (Chrysomphalus tenebriosus Comst.)

Mississippi. J. Milton (July 20): The gloomy scale is very abundant on maple trees in Jackson. The injury is very noticeable in that it is killing the branches.

OAK

OAK TWIG PRUNER (Hypermallus villosus Fab.)

Massachusetts, Connecticut, and New York. E. P. Felt (July 25): The oak and maple pruner is exceptionally abundant, numerous dead twigs having been noted near Newburgh, N. Y., Stamford, Conn., and various places in eastern Massachusetts, particularly Hatchville.

Connecticut. W. E. Britton (July 23): Seemingly more abundant than usual in Somers, Greenwich, Vernon, Bridgeport, Bristol, and New Haven.

New York. E. P. Felt (July 26): The oak pruner is very general and somewhat injurious upon oaks on Long Island.

A LEAF MINER (Brachys acrosus Melsh.)

Minnesota. A. G. Ruggles and assistants (June): The oak leaf miner is reported in Ramsey County. Adults are feeding on elm.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Massachusetts. J. V. Schaffner, jr. (July 20): In eastern Massachusetts adults began issuing on June 10 and the issuance has continued to the present date. First hatching at Melrose was noted on June 30.

NANTUCKET PINE SHOOT MOTH (Rhyacionia frustrana Comst.)

Pennsylvania. E. P. Felt (July 25): The Nantucket pine moth was observed seriously infesting a small planting of ornamental pines in the environs of Philadelphia.

Mississippi. C. Lyle (July 20): Injury to slash pine seedlings by larvae was reported July 5.

A PINE SHOOT MOTH (Eucosma gloriola Heinr.)

Connecticut. E. P. Felt (July 25): The white pine tip moth has caused the killing of a number of lateral shoots in Stamford.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

Arkansas, Florida, North Carolina, and South Carolina. R. A. St. George (July): During June, 1932, outbreaks of the southern pine beetle occurred in the Hot Springs National Park, Arkansas, in shortleaf pine, taking trees up to 32 inches in diameter. In Taylor and Lafayette Counties on the western coast of Florida, in slash and longleaf pines, and in the Pisgah National Forest near Asheville, N. C., in shortleaf pine, other outbreaks have occurred. During July an extensive outbreak occurred in Charleston and Dorchester Counties in the eastern portion of South Carolina, in some of the finest loblolly and longleaf pine timber in that region. The beetles were found first in unburned timberland and later in that burned. In the latter area it is believed that more damage is being caused than in the former one.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Michigan. E. I. McDaniel (July 9): Reported to have defoliated all jack pines in a good sized nursery at Grand Haven. The larvae are fully two-thirds grown.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Pennsylvania. J. W. Knull (July 22): The pine leaf scale is very abundant on natural growth of young white pines near Pine Grove Furnace.

Indiana. H. O. Deay (July 25): Specimens were received from Milroy, July 19, where they were attacking blue spruce.

POPLAR

APHIDS (Aphidae)

Nebraska. M. H. Srenk (June 20 to July 20): There has been an unusual abundance of the galls of the aphids Mordwilka vagabundus Walsh and Pemphigus populi-transversus Riley on cottonwood trees from Sheridan, Cherry, Grant, Arthur, and Logan Counties east to Pierce County, thus embracing the entire sandhill region of the State. Reports of this infestation range from June 20 to July 16.

SPRUCE

SPRUCE GALL APHID (Chermes abietis L.)

Vermont. H. L. Bailey (July 26): The spruce gall aphid is present generally, but reported as particularly abundant in Norway spruce plantations in Topsham and Ryegate.

New York. C. R. Crosby (June 28): Infested branch received from Otisville.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

Connecticut. W. E. Britton (July 25): Branch of hemlock from Norfolk heavily infested and leaves badly injured and webbed together.

Pennsylvania. J. R. Stear (July 22): The spruce mite has been observed injuring Norway spruce.

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

New England. E. P. Felt (July 26): The willow leaf beetle is generally abundant in southern New England and New York, seriously injuring the foliage of many willows and in some cases practically destroying them.

Massachusetts. J. V. Schaffner, jr. (July 21): This insect has been reported abundant on willow in many localities. Adults of the first brood issued June 27 to July 9 at Melrose.

WILLOW CURCULIO (Cryptorhynchus lapathi L.)

Massachusetts. E. P. Felt (July 25): The mottled willow borer is somewhat abundant and troublesome at Beverly Farms.

Ohio. E. W. Mendenhall (June 28): The poplar and willow borers are quite bad in pussy willows in some localities in central Ohio.

A LEAF BEETLE (Lina lapponica L.)

Michigan. E. I. McDaniel (June 30): More numerous than usual, feeding on willow trees and devouring the foliage. About 20 years ago we had a similar outbreak after which the beetles largely disappeared until this year, when they are present in full force.

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

APHIDS (~~Aphididae~~)

Wisconsin. E. L. Chambers and assistants (July): Aphids are occurring in unprecedented numbers on flowers and shrubbery throughout the State (Abstract J.A.H.)

WHITEFLIES (Aleyrodidae)

Georgia. O. I. Snapp (July 19): Whiteflies are very abundant, causing considerable injury to shrubbery around houses in Fort Valley.

FLORIDA WAX SCALE (Ceroplastes floridensis Comst.)

Florida. E. W. Berger and G. B. Merrill (July 21): The Florida wax scale is scarce to moderately abundant at Macclenny and Glen Saint Mary. This scale is widely distributed in Florida and specimens are occasionally received from all parts of the State on many hosts.

COMMON RED SPIDER (Tetranychus telarius L.)

Maryland. Press Release, Extension Service, Uni. of Md. July 18): Evergreens, shade trees, and garden flowers are suffering severe injury from spider mites, according to reports from all parts of the State received by Dr. E. N. Cory. Many fine evergreens have been killed outright and others have been injured so seriously that their value as ornamentals is destroyed, at least for the present. Hollyhock, phlox, ivy, and many other ornamental plants are suffering severe injury, it is said, and boxwood is quite generally infested.

Indiana. H. O. Deay (July 25): The red spider was reported attacking arborvitae at Marion, June 25; cedar at Aurora, June 30; spruce at Linden, July 15; hard maple at Shelbyville, July 21; and silver maple at Clinton, July 21.

Illinois. W. P. Flint (July 20): The red spider has damaged coniferous plantings more than usual during July. It is causing severe damage particularly to juniper, Norway spruce, and arborvitae.

Nebraska. M. H. Swenk (June 20 to July 20): During the period here covered the red spider was quite troublesome on ornamental and house plants, and vegetables in all parts of the State.

Mississippi. C. Lyle (July 20): Severe infestations on garden beans were reported from Smithville and Prairie recently, the correspondent at Prairie stating that his vines had been practically killed. Several complaints of injury to arborvitae and rose were also received during the past month.

AZALEA

AZALEA MEALYBUG (Eriococcus azaleae Comst.)

Alabama. H. P. Loding (July 17): The azalea mealybug is becoming quite a pest on cultivated azalea in Mobile City.

BROOM

A NOCTUID (Tholeria reversalis Guen.)

California. R. E. Campbell (July 11): Last year Genista was defoliated in many parts of southern California. Apparently there will be at least a partial recurrence this year, as we have already received several inquiries from Alhambra as to its control.

COLUMBINE

COLUMBINE BORER (Papaipema purpurifascia G. & R.)

Massachusetts. E. P. Felt (July 25): The columbine borer has been reported as quite injurious at Weston.

North Dakota. J. A. Munro (July 18): A columbine borer, apparently P. purpurifascia, destroyed a planting of columbine at Fargo.

DOGWOOD

A LEAF BEETLE (Calligrapha philadelphica L.)

New York. E. P. Felt (July 25): This leaf beetle was reported as feeding abundantly on the foliage of silky dogwood (Cornus amomum) in the Bronx River Parkway near the Mt. Vernon station.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Massachusetts. A. I. Bourne (July 26): Several complaints have been brought in of recurrence of the injury last year from the gladiolus thrips. Apparently those growers who took the precaution of cleaning their bulbs during the winter have not suffered as severe damage as last year. With others, however, particularly the small growers with backyard gardens, the pest is becoming quite abundant and again threatening severe injury.

J. V. Schaffner jr. (July 21): Three commercial growers of gladioli in Lowell, Wakefield, and Weston have reported a considerable loss.

Connecticut. W. E. Britton (July 23): T. gladioli is present and injuring gladiolus throughout the State.

New York. P. J. Parrott (July 23): This gladiolus thrips is moderately abundant on plants and flowers.

MOUNTAIN ASH

A SAWFLY (Pristiphora banksi Marl.)

Massachusetts and Vermont. J. V. Schaffner jr. (June 21): Larvae of Pristiphora sp., near banksi Marl., were reported abundant on mountain ash early in July at Melrose, Saugus, Stonham, and Wakefield, Mass., and at Stowe, Vt.

New York. P. M. Eastman (July 14): Received twig with insects together with the statement that a mountain ash tree was almost entirely defoliated by a sawfly.

NARCISSUS

BULB MITE (Rhizoglyphus hyacinthi Bdv.)

Maryland. E. N. Cory (July 20): The bulb mite was found attacking narcissus bulbs at Emmitsburg.

Nebraska. M. H. Swenk (June 20 to July 20): A Saline County correspondent reported a heavy loss of her gladiolus bulbs this year, as also last year, from the ravages of the bulb mite.

LESSER BULB FLY (Eumerus tuberculatus Rond.)

Maryland. E. N. Cory (July 20): The lesser bulb fly was observed on narcissus bulbs at Emmitsburg.

NASTURTIUM

SERPENTINE LEAF MINER (Aeromyza pusilla Meig.)

Nebraska. M. H. Swenk (June 20 to July 20): The leaf miner was quite troublesome on nasturtiums over the eastern part of the State.

PALM

A RHINOCEROS BEETLE (Strategus julianus Burm.)

Texas. F. L. Thomas (July 22): This beetle has been unusually abundant during the past month in many areas of south and central Texas. It is especially injurious to palms, burrowing into the bases of these ornamentals.

PHLOX

PHLOX BUG (Lopidea media Say)

Ohio. E. W. Mendenhall (July 14): The phlox bug is very bad on phlox plants in a nursery at Gore, Hocking County. They are very active and may be recognized easily by the dull orange or reddish wing margins.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Washington and Oregon. H. H. Stage (June): Aedes aboriginis Dyar were numerous on Bainbridge Island, Puget Sound, during the month of April. These were followed by A. fitchii Felt and Young late in May and these have continued numerous until the present time, June 22. A. aldrichi Dyar & Knab and A. vexans

Meig. have been very abundant about Portland since the first week in June. A. aldrichi are more numerous than A. vexans this season and because of the high water this year are much more numerous than they were in 1931. A. dorsalis Meig. have been abundant at Sand Lake, Tillamook County, and have caused considerable decrease in the milk production of the dairies in the vicinity of the tidal flats.

CHIGGER (Trombicula irritans Riley)

Pennsylvania. J. N. Knull (July 22): Chiggers have been unusually abundant in weed fields in certain parts of Perry and Franklin Counties.

Indiana. H. O. Deay (July 25): Chiggers were reported to be very abundant at Fishers, July 15, and at Lafayette, July 21.

Nebraska. M. H. Swenk (June 20-July 20): Chiggers have been unusually abundant and annoying in eastern Nebraska during the present season.

HORSES

HORSE BOTFLIES (Gastrophilus spp.)

Indiana. H. O. Deay (July 25): Horse botflies were reported to be so severe a pest in parts of Tippecanoe County the first week in July that it was almost impossible to work horses.

North Dakota. J. A. Munro and assistants (July): Horse botflies were reported as very abundant in Stark, Towner, and Grand Forks Counties. (Abstract J.A.)

Nebraska. M. H. Swenk (June-20-July 20): The nose botfly (G. haemorrhoidalis L.) was reported as troublesome in Cheyenne County during the first week in July

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

United States. T. E. Snyder (July): During June 174 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, 5; Middle Atlantic, 5; South Atlantic, 34; East Central, 16; North Central, 1; West Central, 21; Lower Mississippi, 29; Southwest, 1; Pacific Coast, 2.

ANTS (Formicidae)

Georgia. O. I. Snapp (June 29): We have received more complaints than usual of ants in houses and flower gardens.

Mississippi. C. Lyle (July 20): Two new Argentine ant (Iridomyrmex humilis May) infestations have been found during the past month, one at Glen Allen in Washington County and the other at McCarley in Carroll County.

PEA WEEVIL (Bruchus pisorum L.)

regon. D. C. Mote (July 23): There is a heavier infestation of the pea weevil in the Willamette Valley this year than ever before.

CLOVER SEED CHALCID (Bruchophagus funebris How.)

orth Dakota. J. A. Munro (July 18): The chalcids fly was reported to have destroyed 20 per cent of a bin of alfalfa seed at Bantry, McHenry County.

braska. M. H. Swenk (June 20-July 20): The clover seed chalcid was reported injurious in York County alfalfa fields during the period here covered.

INSECT CONDITIONS IN PUERTO RICO DURING JULY, 1932

G. N. Wolcott

Insular Experiment Station, Rio Piedras, Puerto Rico.

Two outbreaks of the cottony-cushion scale (Icerya purchasi Mask.), from 6 to 9 months old, have been found recently in Pueblo Viejo. The heaviest original infestation, at Palo Seco, is now practically eliminated, in large part owing to praying and the Australian lady beetle, during dry weather, but the final clean-up is almost entirely due to a light gray fungus, as yet undetermined, which has appeared in great abundance during the recent wet weather. This fungus has also cleaned up a heavy infestation in a pocket in the hills west of Bayamon, but in an adjoining grove, not protected from the wind, the scale is more abundant than a month ago, for conditions have been too dry for the fungus and too wet for the beetles, and the latter have entirely disappeared, despite the fact that there is an increasing abundance of food for them in this grove. At the present time they are known to exist in only one grove, and not in large numbers there.

The agricultural agent at Arecibo reports the chinch bug (Blissus leucoprus Say) as being destructive to young planted sugarcane, about 4 months old, at Hatillo. This is the first record of injury to this host in Puerto Rico, although the chinch bug has previously been reported on sugarcane on Vieques Island.

Infestations of lima beans (at Isabela) continue to be confined to one species of pod borer, Etiella zinckenella Treit., and have been averaging from 10 to 40 caterpillars per 100 pods. This is several times as many caterpillars as were in the lima beans last year.

R. Faxon and A. S. Mills (May 3): The new facts, so far as Puerto Rico is concerned, were that Fundella cistipennis Dyar was usually present in small numbers in lima beans that were shipped to the States. In previous seasons E. zinckenella appeared to be more prevalent than Fundella but this season Fundella larvae were found more frequently in the pods of lima beans than either Maruca testulalis Geyer or E. zinckenella. The infestations of F. cistipennis were light, the heaviest being 3 per cent, found in a hamper from Isabela. This insect was found to be present in shipments from Loiza, Vega Baja, Arecibo, Isabela, and Juntas. E. zinckenella was found in only three shipments of lima beans and four of gandules.

PLANT QUARANTINE AND CONTROL ADMINISTRATION

Notes abstracted from "News Letter," July 1, 1932

(Not for Publication)

MEXICAN FRUIT FLY (Anastrepha ludens Loew)

The operation of some 5,600 flytraps resulted in the taking of 5 adult Mexican fruit flies on the American side of the Rio Grande during May. These flies were taken in four groves, three of which have previously been reported as infested. No infestation had been previously reported from the other grove, which is located about $6\frac{1}{2}$ miles from the nearest previously reported infestation. Fermenting malt was used principally as the bait in the traps.

In addition to the A. ludens taken in the traps, 181 adult A. pallens Coq. were also taken. The population of pallens seems to have decreased considerably since, with a considerably larger number of traps in operation, the take of pallens showed a decrease of 536 adults from the number taken in April. This fly seems to occur wherever the "La Coma" plant grows. Larvae were taken during the month as far west as Zapata and as far north as Raymondsville, Texas.

GIPSY MOTH (Porthetria dispar L.)

The first gipsy moth egg clusters were observed hatching this year on May 2. Hatching became general about May 9 and the maximum hatch occurred about May 13. These observations were made in several places east of the barrier zone.

Up to and including May 28, there has been found by the Federal force in the barrier-zone area of southwestern Massachusetts and northwestern Connecticut a total of 67 infested sites aggregating 885 new gipsy moth egg clusters. The towns infested in this portion of Massachusetts are New Marlboro, Otis, Sandisfield, Sheffield, and Tyringham. In Connecticut, the barrier-zone towns infested are Canaan, Norfolk, North Canaan, Salisbury, and Warren. The farthest infested point in the barrier-zone area this year, in relation to the New York State line, is approximately 15 miles east of it. Salisbury, Conn., borders on the New York State line.

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

The gladiolus thrips, T. gladioli, has recently been found infesting gladiolus corms in Washington, D. C., and vicinity, according to a memorandum received from the Bureau of Entomology. A brief survey by Bureau entomologists among local growers and dealers resulted in finding infested corms at two Washington stores from which many lots had been purchased, and an infested shipment had just been received by a local grower.

INSECT PEST SURVEY BULLETIN

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THE MORE IMPORTANT RECORDS FOR AUGUST, 1932

With the harvesting of early small grains the grasshoppers have concentrated on flax, late small grains, alfalfa, and corn, and caused considerable losses in certain areas in the Northwest. During the month, over part of the territory, parasitic flies appeared to be reducing the infestation.

White grubs are generally abundant from New England to Kansas, with local serious damage.

Hessian fly surveys in the Middle Atlantic, East Central, and West Central States indicate that there will be heavy infestations on early planted wheat in western Maryland, Pennsylvania, Ohio, Indiana, Illinois, eastern Kansas, Missouri, and northeastern Nebraska. The situation is more threatening than it has been in many years over most of the Winter Wheat Belt.

The chinch bug was reported doing considerable injury in the vicinity of La Crosse and along the Mississippi River in Pierce, Pepin, and Buffalo Counties, Wisconsin, and Lake, Itasca, Hennepin, and Goodhue Counties, Minnesota, this region being very much north of the normal chinch bug belt.

A severe outbreak of fall armyworm was reported by wire on September 2 from northwestern Texas.

The corn ear worm is generally prevalent throughout the greater part of the United States and, as usual, causing considerable damage to both sweet and field corn. In New Jersey it was observed attacking celery, an unusual food plant for this insect.

The European corn borer was found early in the month in the suburbs of Racine, Wis. It appears that the infestation located last August in Sheboygan and Manitowoc Counties has been cleaned up.

The cotton leaf worm has not yet appeared in the South Atlantic States, nor as far north as Arkansas. This is unusually late for the appearance of this insect.

The codling moth is reported as from abundant to very abundant throughout the greater part of the country. In Illinois it has been more abundant than at any time during the last 10 years.

With the short crop of peaches the injury to the fruit by the oriental fruit moth has been much more serious than usual and the insect seems to be on the increase throughout the Middle Atlantic, South Atlantic, and East Central States.

Blister beetles are doing very considerable damage to a great variety of crops from New England westward to Nebraska and Kansas.

Potato leafhoppers with the associated hopperburn are appearing in numbers in the northern Middle Atlantic States, westward to Minnesota.

The potato psyllid with the associated psyllid yellows is quite prevalent in parts of Colorado and Utah.

The Mexican bean beetle has been reported for the first time from New York and Cumberland Counties, Maine, and from Bennington and Rutland Counties, Vermont, these being the northernmost records for the spread of this insect. It was also recorded from southwestern Nebraska, this being the first record the Survey has received of this insect in that State.

The harlequin bug is generally prevalent considerably north of its normal habitat.

The elm leaf beetle is being reported as prevalent from New England and New York, and local outbreaks have developed at Knoxville, Tenn., and Parma, Idaho.

The gladiolus thrips is quite generally reported as damaging gladiolus flowers from New England throughout the Middle Atlantic States and in Tennessee and Minnesota.

Forty-one cases of Rocky Mountain spotted fever have been reported from Maryland and Virginia during this year up to August 17.

GENERAL FEEDERS

JAPANESE BEETLE (Popillia japonica Newm.)

Connecticut. W. E. Britton (August 23): This pest is gradually spreading and will soon be found throughout the State. Reported at Bridgeport attacking rose, grape, and many trees, shrubs, and plants.

Pennsylvania. L. B. Smith (August 26): The Japanese beetle is causing heavy damage in Philadelphia, Bucks, Montgomery, Delaware, and Chester Counties; confined to suburban Philadelphia.

New Jersey. R. C. Burdette (July 25 and 26): Japanese beetles are causing considerable damage to asparagus in the Woodstown-Swedesboro section.

GRASSHOPPERS (Acrididae)

Maryland. Washington Times (August 8): A number of young apple trees stripped of foliage and some damage to bearing trees in an orchard near Frederick Junction.

Georgia. O. I. Snapp (August 2 and 5): The bird grasshopper, Schistocerca americana Drury, had done considerable feeding on the foliage of peach trees during the first week in August. The damage was confined to those orchards near sodded fields. Poison bran was used as a control. (Peach County)

Indiana. H. O. Deay (August 26): Local outbreaks occurred in southern part of the State and at Culver in the northern part during the first part of the month. Millions of Melanoplus differentialis Thos. had moved into orchards and corn fields at Vincennes, July 30, and had damaged one year old apple trees seriously by August 6. Very serious in alfalfa at Culver, August 3. In Vanderburg County, which is in the extreme southern part of the State, one correspondent estimated that 90 per cent injury had been done to corn. However, most of the grasshoppers had been killed by a fungus disease by the middle of the month.

Michigan. R. H. Pettit (August 22): Grasshoppers are very bad in the upper Peninsula, and they are bad in the upper one-third of the lower peninsula.

Wisconsin. E. L. Chambers (August 22): The heavy rains have tended to reduce the numbers of grasshoppers and many of them have been killed by parasites and disease.

Minnesota. A. G. Ruggles and assistants (August): Grasshoppers were still very abundant during August over most of the infested territory, although they were decreasing very rapidly where poisoning was carried on. (Abstract, J.A.H.)

North Dakota. F. D. Butcher (August 5): With the small grains ripening and being harvested, the hoppers are concentrating on flax, late oats, alfalfa and corn. A lot of corn is being damaged by having the silks cut before the grain has been fertilized.

A. D. Collette (August 13): Most damage from grasshoppers done in sandy ridges in southeastern and eastern parts of Steele County. Very little damage done in north and northeastern part of county. Damage spotted, in some places 100 per cent. Some crops, as flax and sweet clover seed, are a total loss.

H. O. Putman (August): Grasshoppers are damaging gardens in towns of Burleigh County. They have also damaged crops on the lighter soil--flax, corn, and some small grain in many places. Stewartdale, McKenzie, South of Wilton report the most damage.

B. Daggett (August 12): On account of an abundance of feed this year grasshoppers seem to be more in large bunches in certain areas than to be scattered uniformly over the entire area in Ward County. There appears to be from two to three times as many hoppers now as usual. Many townships where no poisoning was done last spring now realize that poisoning should have been done. Apparently at the present time there is every indication that our outbreak next year will be more severe than this year.

J. A. Munro (August 17): Grasshoppers are responsible for serious injury to corn, flax, potatoes, and other late crops in the more heavily infested portions of the State.

South Dakota. H. C. Severin (August 23): A marked decrease in numbers of grasshoppers over most of the State, due largely to Sarcophaga kelleyi Ald. and migrations. Extensive migrations have decreased numbers in general over the State but have given us more general distribution of the pests throughout South Dakota. A secondary parasite is cutting down the effective work of Sarcophaga kelleyi. In some areas the secondary parasite is fully as abundant as the primary. There have been sporadic outbreaks here and there of fungous and bacterial diseases.

Missouri. L. Haseman (July 27): Through central Missouri, at least, the grasshopper situation has greatly improved in the past month. (August 25): Except in young alfalfa, the grasshoppers have done practically no damage this month.

Nebraska. M. H. Swenk (July 20 to August 25): The grasshopper situation during August receded almost to normal. Localized damage in cornfields occurred, and while at the present time there are enough grasshoppers in some places to threaten damage to fall-sown alfalfa and wheat, on the whole further severe damage by grasshoppers is not indicated anywhere in the State this season.

Kansas. H. R. Bryson (August 17): The grasshopper situation in Kansas is about average this year although observations indicated they were very abundant along ditches and roadsides in a number of counties, including Jewell, Riley, Geary, Cloud, Republic, and Mitchell. No evidence of serious damage was indicated. The species which appeared most abundant were Melanoplus differentialis Thos. and M. bivittatus Say.

Tennessee. G. M. Bentley (August 17): Grasshoppers were reported in eastern Tennessee in Hixson, Hamilton County, and parts of Rutherford, Obion, and Lincoln Counties, as very abundant. Doing damage in millet, clover, alfalfa, and corn.

Oklahoma. C. F. Stiles (July 26): Grasshoppers are extremely abundant along creek banks and fence rows in various sections. The outbreak is general but localized in communities where there is an abundance of waste land. The "yellowleg" (M. differentialis) is the most abundant. Many farmers are using poisoned bran meal to control them, but the low price of farm products is preventing a number of farmers from poisoning on waste lands although they would like to.

Idaho. R. W. Haegle (August 24): Moderate damage by grasshoppers in southern

and eastern Idaho during August. Heavy parasitization by a sarcophagid reported in Power County. The grasshopper population is expected to be on the decrease in 1933.

Nevada. G. G. Schweis (August 17): Grasshoppers (a number of) are very abundant and doing heavy damage to second crop alfalfa.

Utah. G. F. Knowlton (August 17): Grasshoppers (M. femur-rubrum DeG.) are moderately to very abundant in northern Utah. Adults are becoming more abundant

MORMON CRICKET (Anabrus simplex Hald.)

Idaho. R. W. Haegele (August 24): Mormon cricket eggs are being deposited freely in areas of the 1932 outbreak in eastern Idaho. A serious infestation is probable in 1933.

South Dakota. H. C. Severin (August 23): Two small colonies of the Mormon cricket found, one at Bee Heights and the other at Murdo.

WHITE GRUBS (Phyllophaga spp.)

Vermont. H. L. Bailey (August 22): White grubs are very abundant, damaging potatoes in the western part of the State.

Pennsylvania. J. N. Knull (August 10): About 80 per cent of the conifers planted near the Cole House, Perry County, were killed or injured by white grubs.
L. B. Smith (August 26): White grubs are very abundant locally throughout the State.

Ohio. E. W. Mendenhall (July 30): The white grubs are exceedingly abundant and are doing considerable damage to strawberry plants and in some cases have totally destroyed whole plantations in the central counties of Ohio.

Illinois. W. P. Flint (August 19): White grubs are causing very serious injury in the northern part of the State, the infestation this year being caused mainly by grubs of Brood B. The whole area is quite generally and heavily infested with the small grubs of Brood A. As both broods will be working in the soil during the early part of next season, we expect very serious damage from these insects in that part of Illinois in 1933.

Wisconsin. C. L. Fluke (July 27): White grubs are very abundant. Brood A began hatching the first of July.

Minnesota. A. G. Ruggles and assistants (August): White grubs were quite serious in Ramsey County, badly damaging golf courses and strawberry plantations. This insect was also reported as very abundant in eastern Polk County, but from scarce to moderately abundant over the remainder of the State. (Abstract, J.A.H.)

Missouri. L. Haseman (July 27): Great numbers of nearly mature grubs, especially in sod ground at Columbia.

Nebraska. M. H. Swenk (July 20 to August 25): White grubs are moderately injurious in blue-grass lawns and strawberry beds during the period here covered.

Kansas. H. R. Bryson (August 15): White grubs are moderately abundant. (August 16): Young white grubs are very numerous at Manhattan. Some potatoes grown in city lots are damaged.

CALIFORNIA TORTOISE SHELL (Aglais californica Bdv.)

California. E. O. Essig (August 17): Second migration, or dispersal, of the adults of the second brood of the California tortoise shell butterfly from the High Sierras of the Lake Tahoe region to the lowlands July 15 to August 1.

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

HESSIAN FLY (Phytophaga destructor Say)

Pennsylvania. H. E. Hodgkiss (July 26): Hessian flies are very abundant and damage is very severe.

L. B. Smith (August 26): Hessian flies are moderately abundant in southeastern Pennsylvania.

Illinois. W. P. Flint (August): The regular Hessian fly survey carried on cooperatively between the Natural History Survey and the Federal Bureau of Entomology has just been completed. This year there has been a very marked increase in infestation throughout the central and southern parts of the State. Through A. J. Surratt, Agricultural Statistician, Bureau of Agricultural Economics, U. S. Department of Agriculture, a special report on Hessian fly conditions was received from 680 of the regular crop reporters located in all counties in the State. These reports of damage and no damage to winter wheat may be taken as an additional check on the conditions found in our regular survey. This increase in fly infestation was mainly due to weather conditions. The fall of 1931 was extremely favorable to an increase and this was followed by especially favorable weather during the egg-laying period of the spring brood of the fly. The heavy spring brood resulted in serious damage to spring wheat, this brood coming from wheat that was sown early in the fall of 1931, and also from volunteer wheat. At the present time there is an abundance of volunteer wheat in practically all sections of the State. The fall brood of the fly is just starting to emerge and lay eggs. If the present rainy, warm period continues the fall brood of the fly should all be out by the normal safe sowing date. If September is dry, emergence will be somewhat delayed and egg laying will probably take place a few days after the normal fly-free date. In any case the infestation is so heavy in most parts of the State south of a line drawn through Carroll, Ogle, and Kane Counties that with anything like normal weather conditions early seeded wheat is sure to be heavily infested.

East Central States. C. M. Packard (August): The area covered by this report includes Tennessee, Kentucky, Ohio, Indiana, southwestern Michigan, and southern and eastern Illinois. There was serious injury of the 1932 crop in many Illinois and Indiana fields, some being practically a total loss. Infestation was comparatively light and injury negligible in Kentucky, Tennessee, and southwestern Michigan. Fly abundance was variable in Ohio, being greater in the northern and west-central parts where heavy infestations were prevalent,

though not of sufficient intensity to reduce yields seriously. The outlook for fly injury this fall in Ohio, Indiana, and Illinois is the most threatening in years. Practically every stubble field contains enough puparia to be a potential source of heavy infestation in any early fall-sown wheat near by. While the percentage of parasitized puparia is higher than usual in Ohio and Indiana, viable puparia are still very abundant in the stubble. The prospect is less threatening in Kentucky, Tennessee, and southern Michigan but with fall weather favorable to its activity the fly is likely to cause material injury to the 1933 crop in these States also. The following table summarizes the records on which this report is based. Field samples consisted of 50 stems and plot samples of 100 stems, the average infestation in each set of plots being used as a single field. The figures below are entirely our own but the report of the Ohio State Hessian fly survey has been referred to in summarizing the situation in that State.

Area	Number of localities	Number of fields	Per cent of stems infested
S. W. Michigan	11	19	19
N. E. Illinois	12	12	14
E. and S. Illinois	35	46	44
Indiana	95	198	41
Ohio	49	67	32
Kentucky	35	51	8
Tennessee	49	98	12

est Central States. J. R. Horton (August): This report is based on a survey during June and July covering Kansas, Missouri, Nebraska, and Oklahoma, exclusive of areas beyond the present range of serious Hessian fly outbreaks. Severe damage, resulting in partial to complete loss of the 1932 winter wheat crop of many fields, was done by the fly in Missouri, southeastern Nebraska, and some counties of north central and northeastern Kansas during the season 1931-'32. Infestations were comparatively slight and crop reductions relatively unimportant in southern Kansas and northern Oklahoma. The prospects of fly injury to the winter-wheat plantings of the coming fall are unusually threatening in Kansas, Missouri, and Nebraska, except in the frontier areas of occurrence already mentioned. Most of the Missouri counties inspected and most of the normally fly-populated counties of Nebraska are strewn with heavily infested stubble fields. The same is true of some of the counties sampled in northeastern and central Kansas; while even those of the southeastern portion of this State have a scattering of sufficiently infested fields potentially to give rise to outbreaks in neighboring fall-sown wheat. Although the percentage of parasitized puparia is greater than usual over most of these areas, there are still sufficient numbers of living Hessian fly larvae present to favor ready emergence and plentiful egg deposition in the fall. The outlook is not serious in the northwestern portion of Kansas, where the fly rarely becomes abundant, but even in that section there is a very noticeable increase of puparia and sufficient population now present for potential local outbreaks following weather favorable to fly increase. The prospects for northern Oklahoma are good in that the summer infestations are slight, except locally in the extreme northeastern portion. The attached table summarizes the results from which this report is drawn and includes records from a total of 930 samples, 565 of which were our own; 270 were supplied by the Nebraska experiment station, 76 by the Missouri station, and the remainder by the Kansas station. A large proportion of the samples were

of 50 stems each; the rest of 100 or more stems each.

State section	Number of coun- ties	Number of sam- ples	Percent of stems infested
Kansas:			
Northeast	6	36	25%
Southeast	12	47	15%
North Central	9	47	27%
South "	14	93	22%
Northwest	7	26	15%
Missouri:			
Northeast	11	28	34%
East Central	16	93	31%
Southeast	5	27	25%
Northwest	12	43	18%
West Central	11	47	35%
Southwest	6	26	20%
Nebraska:			
Northeast	4	25	26%
Southeast	19	186	32%
North Central	1	7	34%
South "	17	122	27%
Southwest	1	5	4%
Oklahoma:			
Northeast	8	25	7%
North Central	5	29	3%
Northwest	2	13	3%
Iowa:			
Southwest	2	5	8%

Nebraska. M. H. Swenk (August): This survey was started shortly after harvest and has just been completed. In it a total of 344 fields, located in 41 counties, were sampled. From 5 to 15 samples were taken from a county, according to size, the apparent density of the fly infestation in it, or other reasons. Each sample consisted of either 50 or 100 wheat stems taken at random from the field. The counties included in the survey involved all of southeastern Nebraska north and west to and including Washington, Dodge, Colfax, Platte, Nance, Howard, Buffalo, Dawson, Frontier, and Furnas Counties. The bulk of the samples were collected by O. S. Bare, Extension Entomologist of the College, and H. H. Walkden and J. R. Horton, of the U. S. Entomological Laboratory at Wichita, Kans. From the survey it is apparent that the principal threat of Hessian fly damage this fall lies in Thayer, Fillmore, Jefferson, York, Seward, Lancaster, Johnson, Butler, Colfax, Platte, Nance, Merrick, Hamilton, Howard, Hall, Buffalo, Kearney, and Phelps Counties, and the indications in these counties are for a heavy main fall brood and a severe attack on all of the wheat that is sown too early to avoid the attack of this brood. With weather conditions favorable for the fly, most of the other Nebraska counties included in the survey are also likely to experience serious damage by this pest.

Missouri. L. Haseman (July 27): The stubble survey is practically completed for the State and will be reported by the fly survey committee in August. Infestation is heavy across central Missouri.

WHEAT-STEM SAWFLY (Cephus cinctus Nort.)

North Dakota. J. A. Munro (August 17): The wheat-stem sawfly was reported from Glenburn. The report stated that it had caused 30 per cent of the wheat stems to break over.

WHEAT STEM MAGGOT (Meromyza americana Fitch)

South Dakota. H. C. Severin (August 23): Wheat stem maggot injury to wheat and barley has been unusually severe during the past year over South Dakota.

SAY'S PLANT BUG (Chlorochroa sayi Stal)

Idaho. G. F. Knowlton (August 1): Say's plant bug is doing serious damage to wheat heads at Ibapah.

CORN

CHINCH BUG (Blissus leucopterus Say)

Ohio. E. W. Mendenhall (August 17): In some sections of Franklin County the chinch bug did some damage to sweet corn. Hardly a year passes without an outbreak somewhere in Ohio.

Illinois. J. H. Bigger (August 16): The chinch bug is moderately abundant in western Illinois.

Michigan. R. Hutson (August 22): The chinch bug is moderately abundant in the southern tier of counties.

Wisconsin. E. L. Chambers (August 22): Chinch bugs have been reported doing considerable injury for the first time in years in the vicinity of LaCrosse, and along the Mississippi River in Pierce, Pepin, and Buffalo Counties.

Minnesota. A. G. Ruggles and assistants (August): The chinch bug is damaging corn in Lake, Itasca, Hennepin, and Goodhue Counties. (Abstract, J.A.H.)

Missouri. L. Haseman (August 25): The summer brood of the chinch bug is quite abundant in some sections but the abundant rainfall over the infested area is preventing serious damage.

Kansas. H. R. Bryson (August 15): Chinch bugs are scarce at Manhattan, and reported as being very abundant at Sedgwick.

Oklahoma. C. E. Sanborn (August 24): The chinch bug is very abundant. Dispersing August 14.

Mississippi. C. Lyle and assistants (August): Chinch bug damage to a large field of corn observed at Dublin, August 6. (R. B. Deen and G. L. Bond.)

CORN EAR WORM (Heliothis obsoleta Fab.)

- Connecticut. W. E. Britton (August 23): Common throughout the State, probably no more abundant than in 1931.
- New York. N. Y. State Coll. of Agr., Weekly News Letter (August 22): The corn ear worm caused a lot of damage in early sweet corn this year in Onondaga County, some plantings being totally destroyed.
- New Jersey. R. C. Burdette and T. J. Headlee (August 2 and 4): The corn ear worm is unusually abundant and most corn is more than 50 per cent injured by this insect. (August 24 and 25): Eggs were found on celery at Mullica Hill. This is apparently a new host for the corn ear worm. This insect was identified as being in celery last year. The general infestation of corn this year and the number of moths now present would indicate that celery will perhaps suffer considerable damage from this insect. This condition will be closely followed and checked up each week to determine just what may be expected from this infestation.
- Pennsylvania. T. L. Guyton (August 22): The corn ear worm is very abundant in all parts of the State.
- Virginia. H. G. Walker (August 25): The corn ear worm was very abundant on sweet corn and is moderately abundant on field corn at Norfolk.
- Michigan. R. H. Pettit (August 22): The corn ear worm is very abundant everywhere.
- Wisconsin. E. L. Chambers (August 22): The corn ear worm has been present in all localities of the State but not nearly as severe as last year.
- Missouri. L. Haseman (August 25): Sweet corn in central Missouri is now (August 26) showing an abundance of young corn ear worms and an occasional full fed worm.
- Arkansas. D. Isely (August 23): I neglected to get other records of the corn ear worm, although larvae were swept from alfalfa in the latter part of May. I have always been inclined to think that this species winters in Arkansas.
- Utah. G. F. Knowlton (August 15): The corn ear worm is causing serious damage to sweet corn in most parts of Davis and Salt Lake Counties, and in other parts of northern Utah.
- New Mexico. J. R. Eyer (July 31): The corn ear worm is very abundant on sweet corn.

ARMYWORM (Cirphis unipuncta Haw.)

- Florida. F. S. Chamberlin (August 24): Several severe infestations of the army worm have been reported in Gadsden County.
- Wisconsin. E. L. Chambers (August 22): The armyworm outbreak, which was so serious last year and was expected to recur this year, has not been nearly so serious.

and apparently we are going to go through the season without any severe loss from this insect, since the corn is going into silos and the grain has been cut and threshed, the season being two weeks in advance of normal times.

wa. H. E. Jaques (August): The armyworm is moderately abundant in Audubon County and very abundant in Emmet and Worth Counties.

vada. Agr. News Service, Univ. of Nev. Agr. Ext. Div. #77-3-4, B. & A B-400 (First half of August): A large outbreak of armyworms was reported west of Pine Valley in Eureka County in June.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

mont. H. L. Bailey (August 22): The European corn borer is moderately abundant in the southwestern part of the State.

necticut. W. E. Britton (August 23): Gradually becoming more abundant throughout the State and causing commercial injury in New London County.

York. N. Y. State Coll. of Agr., Weekly News Letter (August 22): The European corn borer is showing up in sweet corn plantings, but not to the extent of last year.

consin. E. L. Chambers (August 22): Found about two weeks ago in a small patch of sweet corn in the suburbs of Racine. The entire patch was immediately cut and fed to live stock, and no additional specimens have been found anywhere despite the careful survey for several miles around. No specimens of the corn borer have been taken anywhere else in Wisconsin and consequently the infested areas in Sheboygan and Manitowoc Counties which were discovered last August about this time have been completely wiped out by the thorough clean-up staged there this spring.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

ginia. H. G. Walker (August 25): The southern corn stalk borer is very abundant at Norfolk.

exas. H. R. Bryson (August 10): One report has been received from Allen of the southern corn stalk borer injuring corn.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

issippi. C. Lyle (August 23): Corn plants injured by E. lignosellus were received from Dublin on August 9. The sender indicated that these insects had seriously injured a field of young corn and were scattered over a field of old corn.

CORN LEAF APHID (Aphis maidis Fitch)

South Dakota. H. C. Severin (August 23): The corn leaf aphid is exceptionally abundant in Clark County. Some corn was badly damaged.

braska. M. H. Swenk (July 20 to August 25): During the second week in August some trouble developed in Colfax County cornfields due to heavy attack by the corn leaf aphid.

CLOVER

CLOVER FLEA HOPPER (Halticus citri Uhler)

District of Columbia. W. R. Walton (August 4): H. citri on clover in Washington around the Library of Congress, also in northwestern section. Severe damage.

CLOVER LEAFHOPPER (Acoratagallia sanguinolenta Prov.)

Nevada. G. G. Schweis (August 17): The clover leafhopper was reported from Minden as numerous.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Utah. G. F. Knowlton (August 1): Two alfalfa weevil larvae were taken in 500 sweeps of the insect net at LaSal.

Nevada. Agr. News Service, Univ. of Nev. Agr. Ext. Div., #77-8-4 B&AB-400 (1st half of August): The alfalfa weevil damage in Pershing County has not been sufficient to warrant control measures. Half as many additional acres have been dusted this year in the alfalfa weevil control campaign than in previous years at Fallon.

California. A. E. Michelbacher (August 23): The alfalfa weevil is scarce in Niles and moderately abundant in Pleasanton. In the area around Pleasanton the weevil is maintaining itself in about the same numbers as a month ago. Both larvae and adults can be found. Around Niles the weevil is increasing somewhat. In the field under observation 4 adults and 180 larvae were collected from 100 sweeps on August 22. The alfalfa in this field is about two-thirds grown. A month ago, July 22, at the time the alfalfa was being cut for the third time, 7 adults and 132 larvae were collected from 100 sweeps.

FIELD CRICKET (Gryllus assimilis Fab.)

South Dakota. H. C. Severin (August 23): The field cricket is extremely abundant in South Dakota, especially west of the Missouri River, where its principal damage is being done to alfalfa seed.

SOYBEAN

THRIPS (Thysanoptera)

Mississippi. C. Lyle (August 23): Following a complaint that soybeans were setting no fruit, A. L. Hamner found a very heavy infestation of thrips (undetermined) in a 50-acre field of beans at Muldon on August 20. It is believed the thrips were probably responsible for much of the trouble.

VELVET BEAN

VELVET BEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Florida. A. N. Tissot (August 22): The velvet bean caterpillar has been very abundant in many fields in the country surrounding Gainesville. The insect has gone through one brood in this section, some of the adults emerging from the pupae as early as August 8.

FRUIT INSECTS

COTTON LEAF WORM (Alabama argillacea Hbn.)

Arkansas. D. Isely (August 23): Up to date I have no record of the occurrence of the cotton worm in Arkansas. This is, of course, unusually late.

South Carolina. F. Sherman (August 20): The cotton leaf worm is not yet noted in South Carolina for 1932.

APPLE

APPLE APHID (Aphis pomi DeG.)

New York. N. Y. State Coll. Agr., Weekly News Letter (August): Early in August the green apple aphid began to appear in large numbers throughout the eastern and western fruit regions. By the end of the month it was much more abundant than it has been for the past three years in Niagara County. It was also serious in Monroe County. (Abstract, J.A.H.)

CODLING MOTH (Carpocapsa pomonella L.)

Virginia. W. J. Schoene (August 22): The codling moth is expected to have a substantial third brood in the Roanoke district this year.

Georgia. C. H. Alden (August 26): The codling moth is moderately abundant at Cornelia. It is not so injurious as in 1931.

Indiana. G. E. Marshall (August 26): Adults of the second-brood codling moth emerged at Bedford August 17. The heavy rains which fell during the first part of the month seemed to slow down the activities of the second brood worms considerably in the southern half of the State.

Illinois. W. P. Flint (August 19): The codling moth has been more abundant and destructive in southern Illinois than at any time during the last ten years. The older apple orchards in that section are so heavily infested that in some cases the crop will not be picked.

Michigan. R. H. Pettit (August 22): Codling moths are very abundant.

Wisconsin. E. L. Chambers and assistants (August): The codling moth was reported as very abundant throughout the State. (Abstract J.A.H.)

Missouri. L. Haseman (August 25): In spite of our short apple crop and therefore a reduction in the number of sprays applied this year our growers are controlling the pest better than usual. Late worms are still entering the fruit.

Idaho. R. W. Haegele (August 24): Second-brood codling moth activity has been unusually great and prolonged during August, necessitating one or two extra sprays. Worm injury expected to be more than normal in the fruit district of southwestern Idaho.

Nevada. G. G. Schweis (August 17): The codling moth is very abundant in western Nevada.

Utah. G. F. Knowlton (August 17): The codling moth is from moderately to very abundant in northern Utah.

New Mexico. J. R. Eyer (July 31): Codling moths are very abundant. Third-generation adults are abundant now.

Washington and Idaho. Ortho News, Calif. Spray-Chemical Corporation (August 5): For the past few days, day temperatures have ranged close to 100 degrees with the result that second-brood moths have emerged in large numbers. Increased moth catches in bait pots were recorded in nearly all districts beginning July 31. In some districts the catch has been averaging from 20 to 50 moths per trap. This has been particularly true in those orchards in which great care was not taken to control the first brood. Evening temperatures have been ideal for a maximum deposit of eggs.

California. G. S. Hensill (August 17): The codling moth (second brood) is very abundant.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Illinois. W. P. Flint (August 19): Yellow-necked caterpillars have been very abundant on apple; also on wild haw, wild crab, and oak, and in one case these insects were observed completely defoliating small elms.

Missouri. L. Haseman (July 27): Colonies of the yellow-necked apple worm are very abundant on young apple trees.

A LEAFHOPPER (Typhlocyba pomaria McAtee)

Connecticut. P. Garman (August 22): Second brood nymph leafhoppers are emerging in various orchards.

New York. N. Y. State Coll. of Agr., Weekly News Letter (August): The second-brood T. pomaria began hatching in Ulster County on August 6, and newly hatched nymphs were first observed on August 10 in Essex County, and on August 7 in Dutchess County. During the third week in the month they increased to threatening numbers in the lower Hudson River Valley. (Abstract, J.A.H.)

LEAFHOPPERS (Cicadellidae)

New York. N. Y. State Coll. of Agr., Weekly News Letter (August 22): The second brood of apple leafhoppers are appearing in considerable numbers in Onondaga County. In Niagara County these insects have done considerable injury to the foliage this season and are likely to speck the Greenings in many orchards.

Pennsylvania. H. E. Hodgkiss (July 26): Apple leafhoppers are very abundant;

APPLE REDBUG (Lygidea mendax Reut.)

New York. N. Y. State Coll. of Agr., Weekly News Letter (August): Red bugs were reported as more plentiful this season than last year; at least 40 per cent of the orchards in Ulster County were badly infested, in most cases demanding control measures. (Abstract J.A.H.)

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Delaware. L. A. Stearns (August 23): The San Jose scale is more abundant on fruit than in previous years.
- Indiana. G. E. Marshall (August 26): A severe infestation of San Jose scale in an old apple orchard at Bedford was almost completely destroyed by a fungus disease during July and the early part of August.
- Illinois. W. P. Flint (August 19): Owing to the fact that many peach and apple orchards did not receive a complete scale spray during the past season, the San Jose scale is now appearing in these poorly sprayed orchards and causing a moderate amount of damage to the fruit in apple orchards.
- Michigan. R. Hutson (August 22): The San Jose scale is very abundant.
- Wisconsin. E. L. Chambers (August 22): The San Jose scale has a number of new locations in the infested counties along Lake Michigan and the southeastern part of the State.
- Mississippi. C. Lyle and assistants (August): The San Jose scale is generally abundant, as high as 90 per cent of the peach trees being killed where control is not practiced. (Abstract, J.A.H.)

APPLE MAGGOT (Rhagoletis pomonella Walsh)

- New York. N. Y. State Coll. of Agr., Weekly News Letter (August): During the third week in August apple maggot flies were abundant in orchards in Ulster and Essex Counties. In Ulster County it was believed there would be more infested apples this year than last. (Abstract, J.A.H.)

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

- Vermont. H. L. Bailey (August 22): The apple curculio is reported as abundant in Oswell and vicinity.
- New York. N. Y. State Coll of Agr., Weekly News Letter (August 15): New generation apple curculios are still emerging in Essex County. In some cases considerable injury is being done by this new brood.

COMMON RED SPIDER (Tetranychus telarius L.)

- Washington and Idaho. Ortho News, Calif. Spray-Chemical Corporation (August 6): In the Yakima district, particularly in the lower valley, and in the Wenatchee district, red spiders and two spotted mites are nearly as troublesome as they were in 1931. Since the hot dry weather has made its appearance, the injurious effect of the spiders and mites has become more noticeable.
- Nevada. Agr. News Service, Uni. of Nevada Agr. Ext. Div. (August): The red spider has been infesting strawberry patches at Reno.

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

- Connecticut. P. Garman (August 22): An abundance of natural enemies, such as thrips, have tended to keep down infestations of the European red mite.

New York. N. Y. State Coll. of Agr., Weekly News Letter (August): The European red mite did some bronzing of foliage in western New York early in the month to both prunes and Baldwin apples. (Abstract, J.A.H.)

PEACH

PEACH BORER (Agneria exitiosa Say)

Pennsylvania. H. E. Hodgkiss (July 26): The peach borer is very abundant in central Pennsylvania, especially on young trees.

L. B. Smith (August 26): The peach borer is moderately abundant in some orchards in eastern Pennsylvania.

Georgia. O. I. Snapp (July 29): The infestation of Agneria exitiosa is somewhat heavier than usual at Fort Valley which we attribute to the use of less paradichlorobenzene during recent years, as a result of economic conditions, and the mild winter. The first male of the season emerged on July 24 and the first female on July 27. Oviposition began on July 29. Moth emergence started a little earlier than usual which is perhaps due to the mild winter having permitted feeding by the larvae on more days during the winter months than usual, thereby shortening the larval feeding period.

Tennessee. H. G. Butler (July 27): Field emergence of peach borer adults was somewhat greater in July than in June. The peak of emergence usually occurs during the first part of September.

G. M. Bentley (August 17): The peach borer is moderately abundant in eastern Tennessee. These insects occur mostly in orchards which have been temporarily abandoned owing to low prices of fruit.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (August 22): The general infestation seems to be moving the northern and eastern portions of the State.

New York. N. Y. State Coll. of Agr., Weekly News Letter (August 23): The oriental fruit moth has caused the early peaches to be very wormy, and has damaged fully half the crop of quinces in many orchards.

Delaware. L. A. Stearns (August 23): Oriental fruit moth infestation is light owing to heavy parasitization.

South Carolina. A. Lutken (August 24): Larvae of the oriental fruit moth were more abundant than usual in the crop of Elberta peaches. In some cases 4 to 10 per cent of the peaches were infested.

Georgia. W. H. Clarke (July 26): The oriental fruit moth is moderately to very abundant in middle Georgia. Some fruit injury in the upper half of the State. C. H. Alden (August 26): The oriental fruit moth is moderately abundant; as high as 30 per cent of fruit infested at harvest, 1932.

Ohio. T. H. Parks (August 27): Injury to Elberta peaches now being picked at Columbus is much greater than last season. In one orchard with a light crop of peaches, the fruit infestation averages between 40 and 50 per cent.

Indiana. H. O. Deay (August 26): A progressive increase in the number of moths caught in bait traps was noted in the peach regions of the southern part of the State from the first of the month to August 19, according to reports from G. E. Marshall at Bedford and R. F. Sazama at Vincennes.

Tennessee. G. M. Bentley (August 17): Oriental fruit moth reported in Madison County. Abundant in orchards where peach is interplanted with apple. Larvae have been found injuring the fruit of apple.

Mississippi. C. Lyle and assistants (August): The oriental fruit moth was reported during August from Clay, Lafayette, Union, Tate, Lauderdale, Lowndes, Monroe, Chickasaw, and Tippah Counties. (Abstract, J.A.H.)

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Connecticut. P. Garman (August 22): Much less damage to apples this year by the plum curculio, but considerable more to peaches. Good control secured in commercial orchards.

Georgia. C. H. Alden (August 26): The plum curculio is scarce at Cornelia. Very light infestation in fruit at harvest, 1932.

Ohio. E. W. Mendenhall (July 30): The plum curculio is very abundant on plum in the central counties.

Missouri. L. Haseman (July 27): This pest has continued to feed and oviposit longer than usual this summer.

Tennessee. H. G. Butler (July 27): No oviposition by first-brood curculio adults has been observed in the breeding cages at the insectary.

Mississippi. C. Lyle and assistants (August): The plum curculio is quite generally abundant throughout the State. In some cases practically every peach in an orchard was heavily infested. (Abstract, J.A.H.)

APRICOT

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Utah. G. F. Knowlton (August 1): Shot-hole borers are causing severe damage to some of the apricot orchards in the Brigham, Willard, Perry section of Box Elder County.

QUINCE

QUINCE LACEBUG (Corythucha cydoniae Fitch)

Michigan. R. Hutson (August 18): The lacebug is abundant enough to necessitate control measures on 2 acres of quince.

PLUM

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

Idaho. R. W. Haeghele (August 24): Snowy tree cricket populations are on the increase in many prune orchards of southwestern Idaho, necessitating dusting or spraying in a few orchards.

RASPBERRY

RASPBERRY CANE BORER (Oberca bimaculata Oliv.)

Vermont. H. L. Bailey (August 22): Reports of damage by the raspberry cane borer have been received from many parts of the State.

Pennsylvania. W. E. Blauvelt (July 14): Several adult specimens of O. bimaculata have been received. They were reported as attacking raspberry and roses.

Minnesota. A. G. Ruggles (August 23): Several reports have been received of this insect doing severe damage to red raspberries in Ramsey and Hennepin Counties.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Pennsylvania. C. A. Thomas (August 24): Grape leafhoppers have been common and fairly injurious in several vineyards in Chester County.

Ohio. E. W. Mendenhall (July 30): The grape leafhopper is quite bad on grape leaves.

South Dakota. H. C. Severin (August 23): Leafhoppers are doing much damage to woodbine and grape over the State.

Nebraska. M. H. Swenk (July 20 to August 25): Injury to grape and woodbine leaves by the grape leafhopper continued to be reported during the period here covered, the reports during August coming chiefly from south-central Nebraska.

Colorado. G. M. List (August 25): Many inquiries have been received in regard to the grape leafhopper on grapes and ornamental vines such as the Virginia creeper.

Utah. G. F. Knowlton (August 15): Grape leafhoppers are now causing serious damage to Virginia creeper and grapes in parts of northern Utah.

GRAPE PHYLLOXERA (Phylloxera vitifoliae Fitch)

Ohio. E. W. Mendenhall (July 28): I find the grape phylloxera very bad on the Clinton variety of grapes on home plantings in Lithopolis. The leaves show a great deal of injury.

CURRENT

CURRENT APHID (Myzus ribis L.)

Montana. A. L. Strand (August 17): Current aphids are very abundant.

PECAN

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Georgia. J. B. Gill (August 25): The pecan shuck worm has been infesting green nuts in various localities in Georgia.

Mississippi. C. Lyle (August 23): A small percentage of pecan drops received recently from Hollandale and Meridian showed infestation. C. Lyle and assistants (August): Shuck worms are moderately abundant at Ocean Springs, Jackson County.

PECAN CASE BEARER (Mineola juglandis LoB.)

Georgia. J. B. Gill (August 25): There has occurred a heavy infestation of the pecan leaf case bearer in pecan orchards of the southern portion of Georgia.

FALL WEBWORM (Hyphantria cunea Drury)

Georgia. J. B. Gill (August 25): The second brood of the fall webworm has caused some injury to foliage of pecan orchards in scattered localities in Georgia.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Georgia. J. B. Gill (August 25): Colonies of the walnut caterpillar are not so prevalent in pecan orchards of Georgia as in some years.

Florida. A. N. Tissot (August 22): The walnut caterpillar is partially defoliating many pecan trees in the southern part of the pecan section of Florida.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Riley & How.)

Georgia. J. B. Gill (August 25): The citrus whitefly is moderately abundant in southern Georgia on Satsuma orange trees and ornamentals.

Florida. A. N. Tissot (August 28): The citrus whitefly is moderately abundant in scattered localities.

CITRICOLA SCALE (Coccus pseudomagnoliarum Kuwana)

California. R. Bogue (August 23): Orange growers in the vicinity of Redlands have been having considerable trouble from the citricola scale. The scale has been very thick in this district and the growers feel that the weather has been responsible. Extremely hot weather has not been sufficiently plentiful to check the newly hatched scale.

FIG

A FLOWER BEETLE (Euphoria sepulchralis Fab.)

Mississippi. C. Lyle (August 23): Adults of Euphoria sepulchralis were found feeding in moderate numbers on ripe figs at Trebloc on July 30.

TRUCK - CROP INSECTS

FALSE CHINCH BUG (Nysius ericae Schill.)

Utah. G. F. Knowlton (August 1): False chinch bugs have been damaging wheat and truck crops in scattered localities throughout Utah.

Nevada. G. G. Schweis (August 17): The false chinch bugs in migrating from weeds are causing much annoyance to housewives at Reno and Las Vegas.

BLISTER BEETLES (Meloidae)

Connecticut. W. E. Britton (August 22): Epicauta cinerea var. marginata Fab. are generally more abundant than usual. Reported at Bethany, Stafford Springs, Guilford, West Haven, and Wethersfield attacking potato, tomato, clematis, beets, and various garden plants.

Pennsylvania. H. E. Hodgkiss (July 26): E. pennsylvanica DeG. reported abundant in northeastern area. Identified from specimens.

C. A. Thomas (August 24): Blister beetles, E. vittata Fab. and E. marginata Fab. have been very abundant and destructive in southeastern Pennsylvania, where they have destroyed leaves and fruit of tomato, leaves of beet, cow-beet, Swiss chard, etc. The small black E. pennsylvanica was found injuring gladiolus leaves and flowers near Coatesville.

Delaware. L. A. Stearns (August 23): Blister beetle (E. marginata) on potatoes in Yorklyn August 1. E. vittata on potatoes in Ogleton August 8.

Virginia. H. G. Walker and L. D. Anderson (August 26): The blister beetles E. marginata and E. vittata are causing considerable damage to tomatoes in certain areas of tidewater Virginia.

Indiana. H. O. Deay (August 26): Blister beetles continued to be abundant throughout the State to potatoes and tomatoes but were diminishing in numbers toward the latter part of the month.

Illinois. J. H. Bigger (August 16): Blister beetles, mostly E. vittata, were very abundant during July and early August.

North Dakota. J. A. Munro and assistants (August): Blister beetles are very abundant in Kidder, Adams, and Morton Counties. (Abstract, J.A.H.)

South Dakota. H. C. Severin (August 23): Blister beetles of many species are general over the State. Many crops have been attacked and some bush and shade plants defoliated.

Missouri. L. Haseman (August 25): Blister beetles have attracted much attention in the northern half of the State during the month and they are still abundant (August 26) in gardens.

Nebraska. M. H. Swenk (July 20 to August 25): The black blister beetle (E. pennsylvanica) was reported damaging tomato plants in Johnson County, and the silks and tips of corn ears in Thurston County during August.

Kansas. H. R. Bryson (August 17): Blister beetles appear to be more abundant than usual in Kansas this year. A number of reports note the beetles injuring garden crops, particularly potatoes and tomatoes. Observations in Jewell County showed them more injurious to potatoes than the Colorado potato beetle.

Arkansas. D. Isely (August 23): Blister beetles have been unusually abundant, local outbreaks apparently occurring in all parts of Arkansas.

Mississippi. C. Lyle (August 23): Blister beetles belonging to the species E. trichrus Pall. were reported as causing medium injury to dahlias at Starkville on July 30.

A SOLDIER BEETLE (Tegrodera crosa Lec.)

California. R. Bogue (August 23): August 1, Victorville, a heavy infestation of the soldier beetle T. crosa has done considerable damage to flowers and vegetation around Baldy Mesa. This pest apparently has come in from the southeast and has not been noticed before in this vicinity.

POTATOES

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Vermont. H. L. Bailey (August 22): The potato leafhopper is very abundant in the southern half of the State.

Connecticut. W. E. Britton (August 23): The potato leafhopper is scarce.

New York. N. Y. State Coll. of Agr., Weekly News Letter (August): Potato leafhoppers began appearing in large numbers in western New York during the first week in the month. Hopperburn became quite noticeable in Genesee and Orleans Counties. By the third week in the month the problem was quite serious in Onondaga, Orleans, Genesee, and southern Monroe Counties. (Abstract, J.A.H.)

Pennsylvania. L. B. Smith (August 26): The potato leafhopper is very abundant, locally, in Luzerne County.

Virginia. H. G. Walker (August 25): The potato leafhopper is moderately abundant at Norfolk and the Eastern Shore of Virginia.

Ohio. E. W. Mendenhall (July 30): The potato leafhopper is very abundant on potatoes in the central counties.

Wisconsin. E. L. Chambers and assistants (August): This insect was reported during the month in large numbers from practically all counties. (Abstract, J.A.H.)

Minnesota. A. G. Ruggles and assistants (August): The potato leafhopper is very abundant, reports of heavy infestations coming from Sherburne, Morrison, Itasca, Martin, Dakota, Winona, Chippewa, Lac Qui Parle, Lake, and Aitkin Counties. (Abstract, J. A. H.)

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Pennsylvania. H. E. Hodgkiss (July 26): The Colorado potato beetle is very abundant, generally over the State.

Ohio. E. W. Mendenhall (July 30): The Colorado potato beetle is very abundant on potatoes.

Indiana. H. O. Deay (August 26): The potato bug destroyer (Perillus bioculatus Fab.) was reported from several localities in the southern part of the State where it had been observed to be feeding on the larvae of the Mexican bean beetle as well as Colorado potato beetle larvae.

Wisconsin. E. L. Chambers and assistants (August): The Colorado potato beetle is reported as quite generally abundant throughout the State. (Abstract, J.A.H.)

Minnesota. A. G. Ruggles and assistants (August): The Colorado potato beetle is very abundant, reports of heavy infestations coming from Lake, Martin, Kittson, Nicollet, Hennepin, St. Louis, and Aitkin Counties. (Abstract, J.A.H.)

Missouri. L. Haseman (August 25): A few larvae of the Colorado potato beetle and a considerable sprinkle of adults on potatoes.

POTATO FLEA BEETLE (Epiditrix cucumeris Harr.)

Connecticut. N. Turner (July 22): Emerging adults are causing serious injury to Green mountain potatoes in the southern part of the State. Unsprayed vines are seriously affected.

New York. N. Y. State Coll. of Agr., Weekly News Letter (August): During the third week in August the second brood of the potato flea beetle began showing up in large numbers in Onondaga and Orleans Counties. (Abstract, J.A.H.)

New Jersey. R. C. Burdette (July 25 & 26): Flea beetles continue to be very numerous on potatoes.

Ohio. E. W. Mendenhall (July 30): The potato flea beetle is quite bad on potatoes.

South Dakota. H. C. Severin (August 23): The potato flea beetle is more abundant than usual; most damage done to potato and tomato.

Colorado. G. M. List (August 25): The potato flea beetle is more numerous than for a number of years, especially in the Greeley and Fort Morgan sections.

POTATO STALK BORER (Trichobaris trinotata Say)

Pennsylvania. C. A. Thomas (August 24): The potato stalk weevil has caused some injury to cobbles and other early potatoes in Chester County, while adjacent fields of russets and other late varieties were hardly touched by them. A small amount of parasitism by unidentified hymenopterons was found.

POTATO PSYLLID (Paratrioza cockerelli Sulc)

Colorado. G. M. List (August 25): The tomato psyllid is more numerous than usual on potatoes and is being found throughout the State. The early crop of potatoes was almost a total loss in the Gilcrest and Greeley sections from the psyllid yellows. This condition is developing more on late potatoes than we have ever seen before.

Utah. G. F. Knowlton (August 15): The potato psyllid has been found to be generally distributed throughout the potato-growing sections of Utah, and psyllid yellows has been found to occur on potatoes in most of the areas where Paratrioza cockerelli has been present in abundance.

TOBACCO WORM (Phlegethontius quinquemaculata Haworth)

New Jersey. T. J. Headlee and R. C. Burdette (August 17 and 18): The green tomato hornworm is very numerous in all tomato fields visited in the southern portion of the State. Egg laying is also taking place in Bergen County. Eggs are generally very numerous and quite a few at this time are showing parasitism. The young worms range in size from those newly hatched to approximately 1-1/2 inches. In some fields they are unusually abundant and unless spraying takes place immediately serious damage will result. (August 24 and 25): The green tomato hornworm is now in many cases more than half grown. Serious damage is to be expected in fields where no spraying or dusting has been done. Only one field has shown any parasitism. This situation should be carefully followed and action taken where it is deemed necessary.

Nebraska. M. H. Swenk (July 20 to August 25): The larvae were quite troublesome on tomatoes in several localities in southeastern Nebraska during the last week in July.

Utah. G. F. Knowlton (August 1): The tomato worms are damaging potatoes at Price.

POTATO APHID (Illinoia solanifolii Ashm.)

New Jersey. T. J. Headlee and R. C. Burdette (August 2 and 4): The pink and green aphid continues to be present in large numbers.

Pennsylvania. H. E. Hodgkiss (July 26): I. solanifolii on early potatoes only. Abundant. Peak of infestation came at time tubers were being harvested.

EGGPLANT

EGGPLANT FLEA BEETLE (Epitrix fuscata Crotch)

Indiana. H. O. Deay (August 26): The eggplant flea beetle has been abundant throughout the State.

EGGPLANT LACEBUG (Gargaphia solani Heid.)

New Jersey. T. J. Headlee and R. C. Burdette (July 25 and 26): Lacebugs on eggplant are rather abundant, all stages being present in the fields.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

- Maine. H. B. Peirson (August 8): First report of the Mexican bean beetle received from North Berwick, also observed in Alfred, Sanford, Waterboro, Bar Mills, Kittery, and Parsonfield.
C. R. Phipps (August 22): The Mexican bean beetle is moderately abundant in western Maine. First records for York and Cumberland Counties.
- Vermont. H. L. Bailey (August 22): Mexican bean beetles were found in Bennington and Rutland Counties as far north as Wallingford. Previously not found outside Windham County.
- Connecticut. N. Turner (July 22): First-generation adults and second-generation larvae are common throughout the State. The infestation seems more severe in the southern part of the State. Unsprayed beans have been defoliated.
- New York. N. Y. State Coll. of Agr., Weekly News Letter (August): On the 29th of July larvae of the Mexican bean beetle were found for the first time in Genesee County at Batavia. During the first week in August it wiped out many bean patches in Ulster County. (Abstract, J. A. H.)
- Pennsylvania. C. A. Thomas (August 24): The Mexican bean beetle continued to be destructive throughout southeastern Pennsylvania during July.
- New Jersey. T. J. Hoadlee and R. C. Burdette (August 2 and 4): The Mexican bean beetle continues to be very numerous and larvae of the second brood are more than half grown. Bush lima beans are showing the greatest injury.
- Delaware. L. A. Stearns (August 23): Infestation generally scarce.
- Virginia. H. G. Walker (August 25): Moderately abundant in Norfolk and Eastern Shore of Virginia.
- South Carolina. F. Sherman (August 20): Moderately abundant over the State as a whole. Somewhat above average.
A. Lutken (August 24): Very abundant generally.
- Georgia. C. H. Alden (August 26): Moderately abundant at Cornelia. Considerable injury to late snap beans.
- Ohio. E. W. Mendenhall (July 30): The Mexican bean beetle is worse than it has ever been on garden beans and has caused a great loss in central and southern Ohio. The lima and string beans have suffered the most. The beetle seems to be hard to control.
- Indiana. H. O. Deay (August 26): Not so many inquiries in regard to the Mexican bean beetle were received in August as in July. A new generation commenced to appear at Lafayette about August 17 and had destroyed many patches of backyard beans by August 26.
- Michigan. R. Hutson (August 22): Moderately abundant in southern counties on snap beans.

- Nebraska. M. H. Swenk (July 20 to August 25): The bean ladybird was found attacking beans during the last week in July at Kimball County, and Bridgeport, Morrill County. The damage was not extensive or severe.
- Tennessee. G. M. Bentley (August 17): Moderately abundant in eastern Tennessee.
- Mississippi. C. Lyle and assistants (August): The Mexican bean beetle was very abundant in Tishomingo, East Monroe, and Alcorn Counties. (Abstract, J.A.H.)
- Colorado. G. M. List (August 25): The Mexican bean beetle is less abundant than usual in the western half and more abundant in the eastern half of the State.
- New Mexico. J. R. Eyer (July 31): Moderately abundant.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

- Mississippi. C. Lyle and assistants (August): Late bunch beans in Wiggins were severely injured by the bean leaf beetle.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

- North Carolina. R. W. Leiby (August 3): Practically destroyed one acre of young bush string beans in Thomasville by boring into the stalks during the week of July 15.
- South Carolina. J. M. Tenhet (August 5): This insect is damaging beans in one garden in Fairfax.

CABBAGE

IMPORTED CABBAGE WORM (Ascia rapae L.)

- New York. N. Y. State Coll. of Agr., Weekly News Letter (August): Early in August the imported cabbage worm became numerous in many plantings in the western part of the State. (Abstract, J.A.H.)
- New Jersey. T. J. Headlee and R. C. Burdette (August 2, 4, 8, and 9): Cabbage is being severely injured by the imported cabbage worm. The imported cabbage worm is a little more numerous than last week.
- Indiana. H. O. Deay (August 26): The imported cabbage worm was very abundant throughout the State during the first half of the month.
- Wisconsin. E. L. Chambers and assistants (August): The cabbage worm continues to be extremely troublesome throughout the greater part of the State. (Abstract, J.A.H.)
- Minnesota. A. G. Ruggles and assistants (August): Cabbage worms were reported as very abundant from Dakota, Pipestone, Morrison, Martin, Kittson, Winona, Lac Qui Parle, and Aitkin Counties. (Abstract, J.A.H.)
- North Dakota. J. A. Munro and assistants (August): Reported as very abundant from Walsh and Dickey Counties. (Abstract, J.A.H.)

South Dakota. H. C. Severin (August 23): The imported cabbage worm is much more abundant over South Dakota than usual and the damage is correspondingly more severe.

Iowa. H. E. Jaques (August): Very abundant in the northwestern corner of the State.

Nebraska. M. H. Svent (July 20 to August 25): The cabbage worm, which was unusually troublesome in July, became very much less so during August.

Tennessee. G. M. Bentley (August 17): Very abundant in Nashville, Davidson County; above average for season.

CABBAGE LOOPER (Autographa brassicae Riley)

New Jersey. T. J. Headlee and R. C. Burdette (August 2, 4, 8, and 9): Cabbage is being severely injured by the cabbage looper. They are a little more numerous than last week.

Virginia. H. G. Walker and L. D. Anderson (August 26): The cabbage looper is causing considerable damage to early cabbage in the Norfolk area.

South Dakota. H. C. Severin (August 23): Much more abundant over South Dakota than usual and the damage is correspondingly more severe.

Colorado. G. M. List (August 25): The cabbage looper continues to be bad in some of the head-lettuce-growing sections, especially in the San Luis Valley.

CABBAGE WEBWORM (Hellula undalis Fab.)

Virginia. H. G. Walker and L. D. Anderson (August 26): The cabbage webworm is present in the Norfolk area again this year on cruciferous crops.

South Carolina. A. Lutken (August 24): Cabbage webworms are causing losses of collards in many gardens.

DIAMOND-BACK MOTH (Plutella maculipennis Curtis)

New Jersey. T. J. Headlee and R. C. Burdette (August): Cabbage is being severely injured by the diamond-back moth, August 2 and 4. (August 8 and 9): They are a little more numerous than last week.

CABBAGE APHID (Brevicoryne brassicae L.)

New York. N. Y. State Coll. of Agr., Weekly News Letter (August): Early in August, the cabbage aphid did serious damage in parts of western New York. (Abstract, J.A.H.)

Ohio. T. H. Parks (August 15): Cabbage aphid has done serious damage to cabbage grown for kraut in Erie County.

Tennessee. G. M. Bentley (August 17): The cabbage aphid is very abundant in Davidson County, Nashville. Above average for season.

HARLEQUIN BUG (Murgantia histrionica Hahn)

District of Columbia. E. R. King (August 24): Four harlequin bugs were found feeding on a spider plant in Potomac Heights.

Virginia. H. B. Derr (August 16): The harlequin bug is the most destructive insect we have this year.

W. J. Schoene (August 22): During the past summer the harlequin bug has been reported from many sections of the State, causing serious injury to various cruciferous crops. This pest has been more numerous than for many years.

H. G. Walker and L. D. Anderson (August 26): The harlequin bug is seriously injuring young kale and other cruciferous crops in Tidewater. Large numbers of these bugs have been breeding in old seed kale fields, from which they are migrating to other fields. Several fields of young kale have been completely destroyed by migrating nymphs and others have been more or less severely injured. In some places the nymphs have migrated from one-fourth to one-half of a mile, crossing a creosote barrier as if there were nothing there. In migrating from field to field the nymphs have caused some injury to corn. A large number of nymphs have become adults during the past week and these are now flying around and causing damage over a much wider area. A small hymenopterous egg parasite (which has been sent to Dr. Morrison for identification) is quite common in some fields. As high as 30 per cent of the eggs collected in some fields have been found to ^{be} parasitized by this parasite.

North Carolina. R. W. Leiby (August 3): This insect is being reported as doing its usual, if not more than average, damage to cabbage and collards.

Indiana. H. O. Deay (August 26): The harlequin bug seems to be very serious in the southern part of the State, as several inquiries in regard to its control were received from there between August 15 and 22.

Illinois. W. P. Flint (August 19): There have been an unusually large number of reports of this insect. These have come in from many points in the southern half of the State, the farthest coming from Schuyler County, which is almost exactly half way up the State, about on the line with the city of Indianapolis.

Missouri. L. Haseman (August 25): Still causing damage to cabbage and related crops at Columbia. Adults are laying eggs at present (August 26).

Tennessee. G. M. Bentley (August 17): The harlequin bug is moderately abundant in Montgomery County and eastern Tennessee.

Colorado. G. M. List (August 25): The harlequin bug spread farther north this year than usual. It has been taken in considerable numbers in Fort Collins and as far north as Sterlin. The heaviest loss has occurred in the cauliflower-growing sections in the Arkansas Valley east of Pueblo.

New Mexico. J. R. Eyer (July 31): Very abundant.

CUCUMBERSTRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Pennsylvania. L. B. Smith (August 26): The striped cucumber beetle is moderately abundant in southeastern counties; rather severe damage from larvae to cantaloupes is being done.

H. E. Hodgkiss (July 26): Very abundant; damage unusually severe.

Ohio. T. H. Parks (August): More than the usual number of complaints have been made about larvae of this beetle boring into and throughout stems of melon and cucumber plants. They have caused many plants to die before the melons ripened.

Wisconsin. E. L. Chambers and assistants (August): This insect was very abundant throughout the entire State. (Abstract, J.A.H.)

Minnesota. A. G. Ruggles and assistants (August): This insect is very abundant in Hennepin and Dakota Counties; and is moderately abundant throughout the remainder of the State. (Abstract, J.A.H.)

Iowa. H. E. Jaques (August): This insect is very abundant in the southwestern quarter of the State.

Tennessee. G. M. Bentley (August 17): The striped cucumber beetle is moderately abundant in eastern Tennessee; found injuring dahlias as well as the cucurbits.

PICKLE WORM (Diaphania nitidalis Stoll)

Georgia. O. I. Sharp (July 25 and 30): The pickle worm is much more abundant this year than usual. 80 per cent of the honeydew melons in a field at Gray were infested. Cantaloupes at Fort Valley were also heavily infested.

WESTERN STRIPED CUCUMBER BEETLE (Diabrotica trivittata Mann.)

New Mexico. J. R. Eyer (July 31): The western striped cucumber beetle is very abundant. Very injurious on field corn.

MELON APHID (Aphis gossypii Glov.)

South Carolina. J. M. Tonhet (August 3): Late watermelons are being seriously injured in some fields in Fairfax.

South Dakota. H. C. Severin (August 23): The usual number of complaints have been received of the melon aphid over the State. Serious damage done to melon and cucumber.

Nebraska. M. H. Swenk (July 20 to August 25): The melon aphid continued to cause trouble on cucumbers and melons during August, though less than it did in July.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Nebraska. M. H. Swenk (July 20 to August 25): Continued to be troublesome in central and western Nebraska on cucurbits in all parts of the State during the period here covered.

Kansas. H. R. Bryson (August 15): Very abundant this year, at least over the eastern half of the State, but little visible damage has been in evidence.

Tennessee. G. M. Bentley (August 17): Moderately abundant in eastern Tennessee, found injuring dahlias.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Vermont. H. L. Bailey (August 22): Reported generally abundant.

Pennsylvania. J. R. Stear (August 23): Very abundant again this year.

Georgia. O. I. Snapp (July 27): This insect caused considerable injury to water-melons at Byron. Growers reduced the population by hand picking.

Nebraska. M. H. Swenk (July 20 to August 25): Continued during August to be unusually troublesome on cucurbits, especially squashes, in all parts of the State.

Kansas. H. R. Bryson (August 18): Squash bugs are very abundant at Manhattan, but owing to the frequent rains and ideal growing weather injury has not been severe.

Oklahoma. C. E. Sanborn (August 24): Very abundant.

New Mexico. J. R. Eyer (July 31): The squash bug is very abundant.

ONION

TARNISHED PLANT BUG (Lygus pratensis L.)

Michigan. R. Hutson (August 5): Eight acres of onion seed were destroyed in Decatur by this insect.

THRIPS (Thysanoptera)

New York. N. Y. State Coll. of Agr., Weekly News Letter (August 1): Thrips are causing a lot of damage in several onion fields and also in gladiolus.

SWEETPOTATO

GOLD BUGS (Metritona sp.)

New Jersey. T. J. Headlee and R. C. Burdette (July 25 and 26): Gold bugs (Cassida sp.) continue to be serious on sweetpotatoes.

Mississippi. C. Lyle and assistants (August): Damage to sweetpotato leaves noticed, caused by tortoise beetles (Chelymorpha cassidea Fab.) at Booneville, Prentiss County, August 18.

C. Lyle (August 23): Tortoise beetles representing two species, C. cassidea and Metritona bivittata Say, were reported quite abundant on sweetpotato plants at Kosciusko on July 22.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

California. J. C. Elmore (August 22): Although infestations were apparent on the same date as for the preceding season, the weevils are actually only 5 per cent as abundant as they were last year. Three fields are rather heavily infested but are known to have been infested from protected nightshade patches where the weevils have survived the winter. The general light infestation this year is due to the destruction of buds and pods early the preceding fall by unusually heavy weevil infestations so that only adult weevils were able to enter the winter. Heavy infestations are usually possible because adults are able to continue emerging from late pods until February or March, or are able to survive on peppers or nightshade when either are not destroyed by artificial or natural means. Abnormally low temperatures during December and January caused a heavy mortality of both weevils and host plants. Low temperatures also retarded egg laying until March 29, whereas egg laying began February 14 the previous year.

PEPPER MAGGOT (Spilograpta electa Say)

New Jersey. T. J. Headlee and R. C. Burdette (July 25 and 27): The pepper maggot fly is still abundant and pepper fields show heavy egg infestation.

STRAWBERRY

WHITE GRUBS (Phyllophaga spp.)

Pennsylvania. C. A. Thomas (August 24): Numerous complaints have been received during July and early August of injury to strawberry plants by white grubs which chewed off the plants at the crown.

BOXELDER BUG (Leptocorus trivittatus Say)

Michigan. R. Hutson (August 18): The boxelder bug destroyed a planting at St. Joseph of overbearing strawberries. Eggs, nymphs, and adults present in great numbers.

STRAWBERRY LEAF-ROLLER (Ancylis comptana Froel.)

Missouri. L. Haseman (August 25): Strawberry leaf-rollers are abundant in some fields in the southwestern part of the State and in central Missouri.

BEET

BEET LEAFHOPPER (Eutettix tenellus Bal.)

Utah. G. F. Knowlton (August 1): Some curly-top is appearing on tomatoes, 30 per cent being observed in one garden at Blanding. (August 15): Beet leafhoppers have been less abundant in most northern Utah sugar beet fields than during the past few seasons, and curly-top damage has been rather light in most beet-growing districts up to the present time.

New Mexico. J. R. Eyer (July 31): Beet leafhoppers are scarce. Failure of desert host plants has reduced population this season.

BEET WEBWORM (Loxostege sticticalis L.)

Montana. A. L. Strand (August 17): The second generation has been of very minor if any importance, possibly because the first generation was delayed.

Colorado. G. M. List (August 25): The second brood of sugar beet webworm larvae is quite numerous in the eastern counties of the State. It is being found necessary to spray many of the sugar beets and in some cases the worms that are migrating from Russian thistle and other weeds are destroying the silks on corn before pollination.

Idaho. R. W. Haegeler (August 24): A general outbreak was reported throughout counties of eastern Idaho during July, with considerable damage in several widely scattered districts. The outbreak has been rapidly on the decrease in August.

Utah. G. F. Knowlton (August 1): Seriously damaged sugar beets and alfalfa occur in many parts of Utah, but most of the larvae have now matured and little damage has been reported during the past week.

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

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

New Jersey. R. B. Lott (August 17): Entire defoliation of quite large yellow locust trees near Freehold.

Pennsylvania. C. A. Thomas (August 24): Bagworms caused considerable injury during July to arborvitae, blue spruce, Norway and Japanese maples, and other trees and shrubs in southeastern Pennsylvania. (August 1): Bagworms are now migrating to other trees, presumably for pupation.

Indiana. H. O. Deay (August 26): Bagworms were received from Sullivan, August 19, where they were seriously injuring ornamental plantings of blue spruce.

Minnesota. A. G. Ruggles (August 23): Bagworms are more abundant than usual this year on arborvitae. The past few years the weather has been very mild during the winter months and infestation by this insect is building up. I believe the insect would not stand an old-fashioned Minnesota winter.

Nebraska. M. H. Swenk (July 20 to August 25): A report of damage to evergreen by the bagworm was received from Richardson County the second week in August.

Mississippi. C. Lyle (August 23): Heavy infestations on arborvitae have been reported recently from Amory, Vicksburg, and Pine Valley.

GIPSY MOTH (Porthetria dispar L.)

Pennsylvania. Office of Information, Press Service, U.S.D.A. (August 8): The gipsy moth was discovered late in July in northeastern Pennsylvania near Pittston in Luzerne County. This insect was found in an outlying district back in the mountains, consisting principally of cut-over land. Information at hand indicates that an area about 8 miles long and 4 miles wide has already been found to be involved. The chances are that when the survey is completed it will be found that a considerably larger area is infested. The extent of the infestation indicates that the gipsy moth has been present in this region for a period of possibly 15 years.

FALL WEBWORM (Hyphantria cunea Drury)

Maine. H. B. Peirson (August 12): Fall webworms are very prevalent on elm and willow in the vicinity of Augusta and Georgetown.

Connecticut. W. E. Britton (August 23): Apparently this insect is less abundant than in 1931. Attacking shade, fruit, and forest trees.

Pennsylvania. C. A. Thomas (August 24): Fall webworms are now abundant on wild cherry, apple, hickory, walnut, and a number of other tree species, and have entirely defoliated some walnuts and cherries.

Delaware. L. A. Stearns (August 23): The fall webworm is noticeably abundant in northern Delaware--less abundant, however, than at this date last year.

Virginia. C. R. Willey (August): Fall webworms are very abundant in forests of swampy sections from Richmond to Newport News and from Petersburg to Suffolk and Norfolk.

io. T. H. Parks (August 27): This insect is very abundant in Ohio and is attacking valuable ^{shade} trees in the cities. The webs are so abundant in some trees as to make cutting them out or burning impossible.

A LEAF-CUTTER BEE (Megachile sp.)

Montana. A. L. Strand (August 17): A leaf cutter bee, Megachile sp., is very injurious to shade trees in north-central Montana.

CARPENTER WORM (Prionoxystus robiniae Peck)

South Dakota. H. C. Severin (August 23): More complaints than usual have been received of the carpenter worm, P. robiniae.

TWIG GIRDLER (Oncideres cingulatus Say)

Virginia. H. G. Walker & L. D. Anderson (August 26): The twig girdler, which caused considerable damage to various trees in the Norfolk area last year, is just beginning to emerge from pupation.

BIRCH

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fall.)

Illinois. H. B. Peirson (August 18): Birch sawfly leaf miner outbreaks have been very heavy through the central part of the State.

BRONZE BIRCH BORER (Agrilus anxius Gory)

Illinois. E. W. Mendenhall (August 24): The bronze birch borer is very bad in the birch in Dayton and Springfield. There are a good many planted in Dayton and Oakwood.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Edv.)

Pennsylvania. J. N. Knull (August 20): The catalpa sphinx is abundant at Mont Alto this year, attacking catalpa.

New Jersey. Courier-Post, Camden, N. J. (August 17): These worms have denuded large catalpa trees of their foliage, making large sections as bare as in winter at Fairview.

Louisiana. H. O. Deay (August 26): The second generation of catalpa worms commenced to appear at Lafayette August 14, and in the northern part of the State a few days later.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Massachusetts. H. B. Peirson (August): Severe outbreaks by the elm leaf beetle in the vicinity of Bath and Portland on elm, August 10.

-New England and New York. E. P. Felt (August 13): Elm leaf beetle injury has been reported as very serious in the Hudson Valley north to Lake George and up to Rutland, Vt., in southeastern New York especially Monroe, Warwick, Goshen, Newburgh, Kingston, and Catskill.
W. E. Britton (August 22): Not so destructive as in 1931 on unsprayed trees. Sprayed trees in better condition than in 1931. Reported at Hamden, Southington, Middletown, Norfolk, Waterbury, Windsor, and East Windsor, Conn.

Tennessee. G. M. Bentley (August 17): The elm leaf beetle reported at Knoxville. First finding (two locations) in city. Occurred in Maury County several years ago.

Idaho. R. W. Haegeler. (August 24): A general infestation on cork-bark elms by the elm leaf beetle discovered in Parma, Canyon County, on August 22. This is the second infestation of this insect to be discovered in Idaho, the first being in 1931 at Nampa, 25 miles southeast in the same county.

California. E. O. Essig (August 17): The elm leaf beetle has been quite injurious to elms in the Yosemite Valley during July and August, 1932. Some trees nearly defoliated.

ELM LACEBUG (Corythucha pallida ulmi O. & D.)

Connecticut. E. P. Felt (August 13): The elm lacebug is extremely abundant on American elms growing in wild or weedy areas between Kent and Canaan, a distance of some 40 miles. The insects produce a somewhat general, characteristic, yellowish discoloration of the leave, frequently affecting a considerable proportion of the foliage. This insect appears to be very limited and to date has not been observed upon smoothly clipped lawns.

FIR

FIR DARK LOUSE (Dreyfusia picea Ratz.)

Maine. H. D. Peirson (August 10): Outbreaks of this insect are continually being reported, particularly along the coast. Small outbreaks have been reported inland at Weld and Brighton.

SWEET GUM

A MOTH (Recurvaria dorsivittella Zell.)

Connecticut. E. P. Felt (August 13): Sweet gum foliage at Darien has been damaged somewhat by larvae of R. dorsivittella.

MAPLE

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

Virginia. C.R. Willey (August): Mr. French reports the green striped maple worm defoliating many silver maples on "Northside" of Richmond.

Kansas. H. R. Dryson (August 12): There has been considerable injury by the green maple worm on maple trees at the Agronomy Farm at Manhattan. The foliage has been greatly reduced.

JAPANESE MAPLE SCALE (Leucaspis japonica Ckll.)

Connecticut. E. P. Felt (August 13): The Japanese maple scale was reported by Mrs. C. A. Peters, of Farmingdale, L. I., as occurring in large numbers on soft maple and as killing a privet hedge. This insect is locally abundant and injurious in southwestern New England.

MOUNTAIN ASH

A SAWFLY (Pristiphora banksi Marl.)

Maine. H. B. Peirson (August): A sawfly, probably P. banksi Marl., has been attacking mountain ash at Boothbay, Augusta, Bar Harbor, and Portland.

JUNIPER AND CEDAR

JUNIPER SCALE (Aspidiotus carueli Targ.)

Connecticut. W. E. Dritton (August 23): Fairly common in all parts of the State. Reported at New Haven attacking low juniper and red cedar.

New Jersey. R. D. Lott (August 16): The juniper scale has been causing considerable damage throughout the State on junipers, Juniperus hibernica, J. pfitzeriana, J. communis, J. virginiana, etc.

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi. J. P. Kisilanko (August 15): Deodar weevils are doing considerable damage to Cedrus deodara in Hattiesburg.

PINE

A DARK BEETLE (Ips grandicollis Eich.)

Connecticut. R. D. Friend (August 23): Several trees about 18 feet high were killed in a plantation at Simsbury by I. grandicollis. The trees were attacked in 1931. Many trees surrounding those killed were unsuccessfully attacked, the adults being "pitched out."

A PINE SHOOT MOTH (Eucosma gloriola Heinr.)

Connecticut. R. D. Friend (August 22): E. gloriola Heinr. are quite common in forest plantings at Windsor and Easton.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Connecticut. W. E. Britton (August 23): N. lecontei are normally abundant on red pine at Killingworth; also, N. pinetum Nort. on white and Scotch pine, Southbury, July 25.

Pennsylvania. J. N. Knull (July 30): N. lecontei is abundant on a pitch pine plantation 2 miles south of Du Bois. Many of the trees are entirely defoliated. G. S. Perry, observer, J. N. Knull reported (July 30): The red-headed pine sawfly is abundant in pine plantation near Ansonia, Tioga County.

POPLAR

POPLAR BORER (Saperda calcarata Say)

Nebraska. M. H. Swenk (July 20 to August 25): Cottonwood trees in several localities were found infested with S. calcarata during the latter part of July.

VAGABOND GALL LOUSE (Mordwilkoja vagabundus Walsh)

Montana. A. L. Strand (August 17): The vagabond gall louse, P. vagabundus, is very injurious to poplar trees in north-central Montana.

A LEAF BEETLE (Lina tremulae Fab.)

Pennsylvania. J. N. Knull (July 30): The trembling aspens in various parts of Ella County are heavily infested with this insect. The leaves have turned brown on many of the trees owing to feeding of the larvae and adults.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Ohio. E. W. Mendenhall (July 30): The black walnut caterpillars are very abundant on black walnut and hickory trees and in many cases have defoliated the trees throughout central Ohio.

Illinois. W. P. Flint (August 19): The walnut caterpillar is unusually abundant this season on walnut, pecans, and hickories.

Missouri. L. Haseman (July 27): The walnut Datana is very abundant, especially in the western part of the State.

Nebraska. M. H. Swenk (July 20 to August 25): Damage to walnut trees by the walnut caterpillar continued until the end of July, when it abruptly ended.

Kansas. H. R. Bryson (August 15): The datanas on walnut, apple, and oak have caused considerable damage. The most serious damage by the first generation was confined to walnut trees in the eastern half of the State as far south as Lyndon and Euporia.

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

Connecticut. H. L. Bailey (August 22): The imported willow leaf-beetle has been found in considerable numbers in willow foliage in Bennington County.

COTTONWOOD LEAF BEETLE (Lina scripta Fab.)

Montana. A. L. Strand (August 17): The willow leaf beetle is very common and injurious on shade trees in north-central Montana.

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

ARBORVITAE

COMMON RED SPIDER (Tetranychus telarius L.)

Nebraska. M. H. Swenk (July 20 to August 25): The red spider T. telarius continued troublesome during August, especially on spruce and arborvitae.

Mississippi. C. Lyle and assistants (August): Considerable injury, particularly to arborvitae, by the common red spider was reported from many parts of the State. (Abstract, J.A.H.)

AZALEA

AZALEA MEALYBUG (Eriococcus azaleae Comst.)

Georgia. J. B. Gill (August 25): The azalea eriococcus was found infesting azalea bushes in Vienna. This species seemed to be causing somewhat serious injury to the heavily infested plants.

DAHLIA

POTATO LEAFHOPPER (Emboasca fabae Harr.)

Connecticut. N. Turner (July 19): Pompon dahlias were seriously injured, showing tipburn and curled leaves. Only adults present.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Connecticut. E. P. Felt (August 13): The Euonymus scale was reported through W. B. Mix, as seriously injuring Pachysandra at Old Greenwich.
W. E. Britton (August 23): This insect is common everywhere on certain varieties of Euonymus japonicus. A severe infestation was reported from Branford, August 8.

FERN

FERN SCALE (Hemichionaspis aspidistrae Sign.)

Mississippi. C. Lyle (August 23): Fern fronds showing a severe infestation of the fern scale were received from Crenshaw on August 2.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Maine. C. R. Fhipps (August 22): The gladiolus thrips is very abundant in York County.

Connecticut. W. E. Britton (August 22): This insect is causing severe damage on gladiolus throughout the State. Much injury is also caused by Frankliniella tritici Fitch and F. fusca Hinds.

E. P. Felt (August 13): The gladiolus thrips was reported as generally and seriously infesting gladioli at East Schodack.

New Jersey. R. B. Lott (August 16): The gladiolus thrips is very abundant this year, causing the loss of entire crops in some sections of the State.

Pennsylvania. C. A. Thomas (August 24): The gladiolus thrips is evidently spread throughout the southeastern border counties of Pennsylvania, and extensive injury has been found in a number of commercial plantings, especially in those plantings where new stock has been received from outside during the past year or two. This is undoubtedly the worst pest with which the gladiolus growers in this section have to contend. (August 15): One grower near Thorndale reports over 90 per cent of his gladiolus flowers unfit for market because of this thrips.

Minnesota. A. G. Ruggles (August 23): T. gladioli is becoming more and more abundant around the Twin Cities. Our largest growers of gladiolus have not yet had the pest.

Tennessee. G. M. Bentley (August 17): Thrips are reported at Chattanooga and Dayton. Found injuring the blooms of gladiolus.

GENISTA

A PYRALID (Tholera reversalis Guen.)

California. R. E. Campbell (August 23): Genista plants are again being defoliated by T. reversalis in many parts of Los Angeles County.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Pennsylvania. H. E. Hodgkiss (July 26): Damage by the iris borer is reported to be serious in the southeastern area.

MAGNOLIA

MAGNOLIA SCALE (Neolecanium cornuvarvum Thro)

New York. W. E. Blauvelt (July): Specimens of N. cornuvarvum have been received.. They were reported on magnolia.

NARCISSUS

LESSER BULB FLY (Eumerus tuberculatus Rond.)

Virginia. C. R. Willey (August): Lesser bulb flies are very scarce in Virginia plantings (bin inspection) this fall. Adults apparently emerged during very warm weather in the last part of February and were killed by the "freeze" the first of March.

ROSE

ROSE CURCULIO (Rhynchites bicolor Fab.)

Nevada. G. G. Schweis (August 17): The rose curculio is reported as damaging roses in Reno.

SADDLE-BACK CATERPILLAR (Sibine stimulea Clem.)

Delaware. L. A. Stearns (August 23): The saddle-back caterpillar was reported on rose at Rehoboth and Lewes, August 9.

BRISTLY ROSE SLUG (Cladius isomerus Nort.)

Indiana. H. O. Deay (July 25): Rose leaves which had been injured by the bristly rose slug were received from Hudson, July 1, and from Albion, July 12.

WISTARIA

GIANT SKIPPER (Ebargyreus tityrus Fab.)

Connecticut. W. E. Britton (August 22): Leaves of wistaria were nearly all rolled and partly eaten by this insect at New Haven.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

DOG TICK (Dermacentor venustus Bks.)

Maryland. Washington Herald (August 19): Following the discovery of two cases in the District, 13 cases of Rocky Mountain spotted fever have been reported in Maryland. Dr. Robert H. Riley, chief of the State department of health, announced last night. Fourteen cases of typhus fever also have been reported in Maryland. Four cases of spotted fever also have been reported in Anne Arundel County, two each in Montgomery and Dorchester Counties, while single cases have been discovered in Prince Georges, Baltimore, Worcester, Harford, and Allegany Counties. Most of the typhus cases reported are on the Eastern Shore.

DEER FLIES (Chrysops spp.)

Oregon. H. H. Stage (August 3): Deer flies are unusually abundant about Summer Lake this season and two cases of tularaemia have been reported.

A BLOOD-SUCKING CONENOSE (Triatoma protracta Uhl.)

Nevada. G. G. Schweis (August 17): The western blood-sucking conenose is reported as biting residents in southern Nevada and causing severe illness.

FLEAS (Ctenocephalides spp.)

Ohio. T. H. Parks (August): Complaints about infestations of fleas in homes and farm buildings have been much more abundant than in the average year. In the city of Columbus several homes have required fumigation because of the insects.

South Dakota. H. C. Severin (August 23): An unusually large number of complaint about dog and cat fleas were received during the past month.

Nebraska. M. H. Swenk (July 20 to August 25): Complaints of the infestation of houses with fleas (C. felis Boucho) which were abundantly received during July, continued to be received less abundantly from eastern Nebraska counties during the period here covered.

HOUSE FLY (Musca domestica L.)

North and South Dakota. W. G. Bruce (August): House flies are generally reported in unprecedented numbers over the greater part of North and South Dakota. (Abstract, J.A.H.)

MOSQUITOES (Gulicinae)

South Atlantic Coast. W. E. Dove (July 25): During the early part of the month salt-marsh mosquitoes (Aedes sollicitans Walk.) appeared in Charleston but were

not numerous. At Savannah, Ga., this species was very abundant during the past month. According to residents they were more numerous than at any time during the past 40 years. A wind from the marshes during a high tide is said to have been responsible for the large numbers. By July 25 most of the mosquitoes had disappeared.

outh Carolina. D. G. Hall & F. M. Prine (June 10-30): At Charles, Culex quinquefasciatus Say, became very abundant in the city and was regarded by residents as the salt-marsh mosquito. Extensive breeding places were found in pools adjoining the city dumping grounds. As many as 200 specimens of this species could be found in one room during a single evening in a Charleston residence.

lorida. J. B. Hill (July 25): There are reports that A. taeniorhynchus Wied. was abundant in the vicinity of Fort Pierce following winds from the marshes of Vero Beach.

regon. H. H. Stago (August 3): A. dorsalis Meig. and A. fitchii Felt and Young are more numerous than last year, owing no doubt to the plentiful water supply this year. Anopheles maculipennis Meig. was found much less numerous than last year about the lakes and irrigation districts of southeastern Oregon. Larvae of Culex tarsalis Coq. were found widely scattered and in many different kinds of water.

EYE GNATS (Hippelates spp.)

outh Carolina. J. N. Tenhet (August 2): Eye gnats have been remarkably abundant for the past month in Fairfax. Conjunctivitis is almost epidemic among children of the community. Eye gnats are usually abundant at this season of the year, but last year and this year they have been particularly bad.

Mississippi. C. Lyle and assistants (August): The eye gnats have been very annoying in Stone and Forrest Counties, for the past few days.

SANDFLY (Culicoides sp.)

outh Carolina. W. E. Dove (July 1): At Charleston a few adults C. canithorax Hoffman could be found in densely shaded areas near salt marshes. In marshes receiving seepages of salt water C. melleus Coq. and C. dovei Hall were annoying.

Gorgia. W. E. Dove (July 25): Near the marshes of Savannah sand flies are not annoying during the day but enter the residences during the early morning hours. The window screens do not give any protection.

CATTLE

HORN FLY AND STABLE FLY (Haematobia irritans L. and Stomoxys calcitrans L.)

orth Dakota. W. G. Bruce (July): Stable flies and horn flies have appeared in abundance during the past two weeks, causing considerable annoyance to cattle and horses. Dr. Dinwoodie, extension veterinarian, and formerly with The Dakota Farmer, states that he never saw these pests so troublesome and

destructive and that he could notice the daily decrease in the weight and condition of cattle due to the annoyance of these flies. It has been dry here during the past three weeks and this may have had some effect upon the increase in the number of flies.

W. G. Bruce (August): Flies have been so generally troublesome, particularly Stomoxys calcitrans L., that many cases of lameness in cattle was due to the animals being forced to stand in water and mud, reported from many localities. The condition was particularly bad in McKenzie and Dickey Counties. (Abstract J.A.H.)

South Dakota. W. G. Bruce (August 1): Ranchers state that flies have never been so abundant in 30 years. The number of horn flies on cattle per head average from 200 to over 1,000; and the number of stable flies per head estimated average from 25 to 100. Anthrax and a foot disease, probably foot rot, have been rather prevalent this season, and it is thought that the abundance of stable flies may have some bearing on this condition.

W. G. Bruce (August): The stable fly is extremely abundant in Columbia, Chamberlin, Pierre, Aberdeen, Redfield, Miller, and west to the Black Hills. (Abstract, J.A.H.)

Kansas. H. R. Bryson (August 15): There was an outbreak of biting flies this season. These included the horn flies and stable flies. The horn fly was particularly abundant. More requests for fly spray formulas have been received than have been sent in for many seasons.

Missouri. L. Haseman (July 27): Dairymen and others report fewer horn flies than usual.

HORSE

NOSE BOTFLY (*Gastrophilus haemorrhoidalis* L.)

North Dakota. W. G. Bruce (July): On July 7 the first nose botfly was observed in the vicinity of Grand Forks; practically every horse in harness is provided with a nose guard of some sort, to offer protection against the attacks of the nose fly.

North and South Dakota. W. G. Bruce (August): Nose flies were so abundant early in August that practically every horse between North and South Dakota and Winnipeg, Canada, was protected from the nosefly by some sort of nose protector. (Abstract, J.A.H.)

HORSE BOTFLY (*Gastropilus intestinalis* DeG.)

North and South Dakota. W. G. Bruce (August): The common botfly appeared in North and South Dakota during the second week in August. They are not unusually abundant. (Abstract, J.A.H.)

HORSE FLIES (Tabanidae)

North Dakota. W. G. Bruce (July): Horse flies, Chrysops spp., were especially numerous in the vicinity of Grand Forks during the early part of July, and it was not uncommon to see 8 to 10 of these pests on one horse.

Missouri. L. Haseman (July 27): Horse flies have been scarce during the month in central Missouri.

BEES

A ROBBER FLY (Deromyia ternatus Loew)

Florida. G. H. Bradley (July 30): D. ternatus was reported by Mr. J. R. Rushing, a beekeeper, as killing numbers of his bees about August 1.

BULLFROG (Rana sp.)

California. R. Bogue (August 23): The town of Tipton reported that bullfrogs are especially plentiful this year as a result of the wet season last winter and are doing considerable damage by preying upon honeybees and hives. One or two ranches have been hard hit and the ranchers in this vicinity have started a campaign against the frogs to prevent further damage to hives in this vicinity.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

ARGENTINE ANT (Iridomyrmex humilis Mayr)

South Carolina. A. Lutken (August 24): Argentine ants are causing extreme annoyance in 22 towns in the State.

Mississippi. C. Lyle and assistants (August): The Argentine ant was recorded for the first time from McCarley and Mathiston. It was also reported for the first time from Adams County. (Abstract, J.A.H.)

ANTS (Formicidae)

Mississippi. C. Lyle (August 23): Ants identified by M. R. Smith as Crematogaster ashmeadi Mayr were received on July 26 from McComb where they were reported as destroying insulation of telephone wires.

C. Lyle and assistants (August): Native ants have been unusually bad this summer, especially the fire ants in Yalobusha, Grenada, and Montgomery Counties. Fire ants are very abundant at Ocean Springs, Jackson County.

CLOVER MITE (Bryobia praetiosa Koch)

North Carolina. R. W. Leiby (August 3): One report of a heavy infestation of furniture, beds, and carpets by this animal (B. praetiosa) on July 22 at Concord, R. F. D.

TERMITES (Reticulitermes spp.)

United States. T. E. Snyder (July): During the month of July 134 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, 5; Middle Atlantic, 39; South Atlantic, 23; East Central, 9; North Central, 2; West Central, 11; Lower Mississippi, 33; Southwest, 2; Pacific Coast, 5.

The bean leafhopper (Empoasca fabalis DeL.) is pretty abundant on beans.

The banana root borer (Cosmopolites sordidus Germ.) was reported from the (yes district seriously attacking potato tubers.

Citrus trees are attacked by the purple scale (Lepidosaphes beckii Newm.) the black flies Aleurodicus minimus Quaint., and the citrus mealybug (Pseudococcus citri Risso).

The coffee cricket (Chromon repentinus Rehn) is causing some damage to the young stems of coffee trees in the south.

At the western end of the Island, near Dane-Marie, the cacao thrips (Heliothrips rubrocinctus Giard) was causing grave injury to the cacao trees.

The oleander scale (Aulacaspis pentagona Targ.) is very abundant on oleander bushes and is damaging them severely.

The rose scale (Chrysomphalus aonidum L.) is still present in the beds of roses, though diminishing in number (Port-au-Prince).

INSECT CONDITIONS IN COSTA RICA DURING MAY, JUNE, JULY, AND AUGUST
1932

By C. H. Ballou
San Jose, Costa Rica

The leaf-footed bug (Leptoglossus zonatus Dall.) was reported as quite abundant on apple, injuring terminal buds, fruit, and leaves, at San Pedro de Montes de Oca. It was also injurious on ripe and nearly ripe tomatoes.

The citrus blackfly (Aleurocanthus woglumi Ashby) was abundant and injurious in Maceta Central and San Pedro de Montes de Oca. This insect is always serious up to an altitude of 1350 meters.

The apple aphid (Aphis pomi DeG.) was damaging apple leaves at San Jose during the early part of August; it was also attacking quince.

The hemispherical scale (Saissetia hemisphaerica Targ.) is always present but sparse, and not serious. Scattered on soursop, not important in San Pedro de Montes de Oca.

The purple scale (Lepidosaphes beckii Newm.) is always present and occasionally harmful in San Pedro de Montes de Oca.

Papilio anchisiades Esp. larvae did considerable damage on orange trees in a brood that emerged January 16 in San Pedro de Montes de Oca. The next two broods developed on matasano trees (q.v.); consumed 30 per cent of the foliage of a tree 15 feet high; pupated July 10, emerged August 15; of 28 pupae all emerged within 3 days. The period of emergence on orange in January was much longer, covering about two months.

Membracis mexicana Guer. scars tender shoots in San Pedro de Montes de Oca, and causes the drying of spots on the tender shoots. Not important.

L.
Coccus hesperidum was abundant on isolated trees in May in San Pedro de Montes de Oca, and did some damage on newly budded trees when they broke into growth.

SUMMARY OF INSECT CONDITIONS IN BRAZIL FOR 1931

By Edson J. Hambleton

Escola Superior de Agricultura e Veterinaria, Minas Geraes

The following notes on insect observations were taken almost entirely on the college grounds at Vicosa, Minas Geraes. Reference is made to those of Dr. Carlos Moreira, Instituto Biologico, Rio de Janeiro.

Atta sexdens Forel is by far the worst insect in all Brazil. Many farm lands have absolutely been abandoned.

Stephanoderes hampei Ferr., which was introduced into the State of Sao Paulo in coffee seed several years ago, was well established before the plague was announced by a grower in Campinas in 1924. Regardless, however, of the thorough work and the continued fight that has been waged in some 30 counties, the insect continues to spread and is causing almost total loss on plantations where control is not practiced. Farms in the heaviest infested regions that did not produce 1 per cent of sound coffee a few years ago are now producing 95 per cent marketable coffee. Prorops nasuta Wtrst. was collected in Uganda, Africa, by Dr. A. Hempel. Reports from Sao Paulo at the end of this year indicated that the parasite was becoming well established and that recoveries were being made within a kilometer from the liberation points.

The Mediterranean fruit fly (Ceratitidis capitata Wied.) was present in usual numbers throughout most of the year. Peach, tangelo, and grapefruit suffered greatest losses. The West Indian fruit fly (Anastrepha fraterculus Wied.) was responsible for heavy losses in peach, tangelo, grapefruit, arasa, and guava. Among the other host fruits attacked by both species of flies were the Surinam cherry, apple, pear, orange, and coffee. According to C. Moreira, the above fruit flies, with the addition of Lonchaea pendula Bezzi, were more abundant this year at the Estacao de Pomicultura in Deodora, State of Rio de Janeiro, where they caused greater losses to grapefruit.

Gymnandrosoma aurantianum Costa Lima appeared during April and May for the first time in the College orchards. A considerable number of Satsuma and orange fruits ripened prematurely and dropped.

Several species of Papilionidae common throughout Brazil oftentimes completely defoliate grown citrus trees. Papilio anchisiades capys Hbn. was more abundant this season, although highly parasitized.

Melipona ruficrus Latr. attacks the buds, flowers, and young foliage of citrus. In spite of the fact that many nests of these bees were destroyed, considerable damage was noted on younger trees.

Aulacaspis pentagona Targ. severely attacks peach and mulberry in many regions of the State (Minas Geraes). It is by far the most important scale insect attacking peach in Brazil.

Macroductylus dorsatus Germ. (det. E. A. Chapin) was observed feeding on the blossoms of many common plants. Another related species, M. punilio Burm., was found during November in Uba destroying all the fruits on some two dozen peach trees.

The San Jose scale (Aspidiotus perniciosus Comst.) which has confined itself to a part of the State of Rio Grande do Sul, appeared in the region of Rio Negro in the State of Parana this year, (Carlos Moreira.)

Eriosoma lanigerum Hausmann has been well held in check by the parasite Aphelinus mali Hald. (C. Moreira.) This parasite is now distributed in the States of Rio Grande do Sul, Sao Paulo, and Minas Geraes, having been introduced some years ago. (Moreira and Hambleton.)

Schistocerca flavofasciata DeG. (det. A. N. Caudell) is very common through the citrus nursery on the College grounds, where it has been taken feeding on the foliage.

In a small planting of Rolinia deliciosa all of the trees were heavily infested with Heilinus catagraphus Germ. Some trees died during the past year.

A new scale insect found on Annona squamosa on the College grounds was described as Pseudaulacaspis sordidus n. sp. by Dr. A. Hempel, Instituto Biologico, Sao Paulo, in October, 1931.

Coccus mangiferae Green was found heavily infesting a small mango tree imported from the United States of America during September. According to Hempel, this is the first record of its presence in Brazil.

The cotton worm (Alabama argillacea Hbn.) appeared this year during January. The infestation was quite severe where control measures were not practiced. Reproduction continued until late May, at which time lower temperatures accompanied by almost 100 per cent parasitism reduced the infestation to a minimum.

The pink boll worm (Pectinophora gossypiella Saund.) has been reduced to a minimum. (C. Moreira.) However, in several hectares grown in the experimental lots at the College, the infestation ran as high as 98 per cent in practically all varieties.

Gasterocercodes gossypii Pierce appeared in the cotton plots at the Experiment station in Piracicaba, Sao Paulo, where it infested a large number of plants. (C. Moreira.) At Vicosa, Minas Geraes, this insect ranks third in importance of all those affecting cotton.

The cotton-stainer Dysdercus fernaldi Ballou (det. H. G. Barber) is very abundant here.

The fall armyworm (Laphygma frugiperda S. & A.) and a sugarcane borer, (Atraea saccharalis Fab.) did considerable damage to early field corn.

A bean leaf webber, Leprosoma indicata Fab. (det. W. T. M. Forbes) was common on pole beans during April and May. Adult moths were very numerous at

electric lights during the latter half of May.

Four chrysomelid leaf beetles are generally present in bean plantings. One of these, Diabrotica speciosa Cram., is also common on a great variety of other crops.

The cane borer Diatraea saccharalis Fab. constitutes one of the principal cane insects in the State of Minas Geraes. Dr. C. Moreira has reported that the larvae of this insect, which generally confine their attack to younger canes, appeared in some fields in older stocks (1931).

Among the insects attacking sugarcane, Toxaspis literata Lep. & Serv. appeared on the increase this year but caused smaller losses than in 1920 and 1921 when it threatened cane growers in many regions. This pest is known to occur in the States of Minas Geraes, Sao Paulo, and Parana and there are varieties occurring in Matto Grosso and Rio Grande do Sul. (C. Moreira.) Several species of family Cercopidae attack sugarcane in Brazil. Mahanarva indicata Dist., the species most commonly found, is widely distributed through Minas Geraes. Although it has never been considered of much importance, there is reason to believe that it is likely to cause serious losses in certain varieties of cane.

Two scarabacids, Ligyrus humilis Burm. and L. fossator Burm. appeared or were first noticed in a large sugarcane plantation at Rio Branco, Minas Geraes. The grubs of these beetles destroyed several acres of a new planting during 1930. In 1931 the infestation, confined chiefly to a low, poorly drained area, was very much reduced after soil treatments.

Tomatoes were heavily attacked during May to July by Leucinodes elegantalis Guen., whose larvae tunnel their way into the young fruits, completing their development at harvest time. Losses as high as 80 per cent were not uncommon. The "broca" is the most important insect enemy of tomatoes.

A sweetpotato curculionid, Euscepes batatae Waterhouse, common in all Brazil, caused higher losses in imported potatoes in the College plots this year. The weevils continue their destruction long after the potatoes are placed in storage.

The pickle worm (Diaphania nitidalis Stoll) caused 75 per cent loss in a small planting of cucumbers at Vicosia. Adults of this species and of D. hyalina L. were very common at electric lights during the period from November until June.

Leucinodes elegantalis Guen., which caused such losses in tomato, was also found attacking eggplant on several occasions.

The grape phylloxera (Peritymbia vastatrix Planchon) is still limited to a small zone in Rio Grande do Sul. (C. Moreira.)

A lepidopterous larva, Brassolis astyra Godt., was present in sufficient numbers this year to almost defoliate many palm trees at the College.

Two new scale insects collected at Vicosia in October and November have been described as Saissetia minensis Hempel and Mesolecanium planum Hempel, both new to science.

On the ornamental Thuja occidentalis on the College campus were observed for the first time scale insects determined by A. Hempel as Diaspis visci Schr. He reports that this is the first time that the species has been known to occur in Brazil.

INSECT PEST SURVEY BULLETIN

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THE MORE IMPORTANT RECORDS FOR SEPTEMBER, 1932

The situation with respect to the principal insects attacking field crops, including grasshoppers, white grubs, Hessian fly, chinch bug, and corn ear worm, has not materially changed since our September 1st report.

Two flower beetles (Euphoria inda L. and E. sepulchralis Fab.) were attracting attention by injuring vegetables and flowers throughout the Mississippi Valley region from North Dakota to the Gulf.

The southern corn stalk borer was reported as unusually abundant in North Carolina, as high as 95 per cent of the stalks in some fields being infested, and in some instances heavy infestation caused considerable breakage of stalks.

What is believed to be the beet webworm seriously infested alfalfa fields in Duchesne and Uintah Counties, Utah, this year. This is the only serious outbreak of this insect in this State during the past ten years.

From present indications it appears that the plum curculio will hibernate this fall in greater numbers than it did last year in Georgia.

Probably in consequence of the continued rainfall deficiencies over parts of the East Central States, damage by the shot-hole borer is decidedly more prevalent in deciduous orchards than usual in that region.

A red spider (Tetranychus pacificus McG.) has apparently extended its range from San Joaquin and Stanislaus Counties to Fresno, Tulare, and Kern Counties in California. This insect is one of the serious vinifera grape pests.

An unusually heavy population of the pecan leaf case bearer is entering hibernation in southern Georgia, indicating serious infestations next spring.

A new infestation of the citrus whitefly has been found about 4 miles northeast of the infestation at Pasadena, Calif., discovered last summer.

Blister beetles continued to be very destructive to truck and ornamental crops along the south Atlantic seaboard and in the lower Mississippi Valley.

The banded cucumber beetle is occurring in very destructive numbers in Louisiana, Mississippi, Alabama, and Georgia, where it is damaging beans, sweet-potatoes, and other truck crops.

The Mexican bean beetle has been found as far north as central New Hampshire and has been destructively abundant farther north in Indiana than during any previous year.

The cabbage webworm was causing considerable damage throughout the South Atlantic and Gulf States.

Fall webworms (Hyphantria cunea Drury and H. textor Harr.) were reported as unusually prevalent throughout the New England, Middle Atlantic, South Atlantic, East Central, and Lower Mississippi Valley States.

A very heavy infestation of forest trees by walkingsticks resulting in severe defoliation was reported from limited areas in southern Pennsylvania.

THE MORE IMPORTANT ENTOMOLOGICAL FEATURES IN CANADA FOR AUGUST AND SEPTEMBER, 1932

Combative measures against grasshoppers were carried out over a wide territory in the Prairie Provinces. A survey of the situation in Manitoba, where the outbreak is most severe, showed that while large areas of crops had been saved through the application of poisoned bait, considerable damage has been done in some localities, not only to grain crops, but also to fodder and market garden crops. Surveys by provincial and federal officers are being continued in the three affected provinces. Throughout British Columbia grasshoppers continue unusually scarce.

Wireworms have caused much damage in Saskatchewan, particularly in the territory northeast of Saskatoon, where they appear to be increasing.

The infestation of white grubs is heavier over eastern Ontario than in the southern and central parts of Quebec. The grubs are in the destructive second-year stage in the latter province and are causing heavy damage to crops.

The bertha armyworm is recorded for the first time from the Pacific coast region of British Columbia, at Massett, Queen Charlotte Islands.

Present indications are that unless control measures are taken this fall, there will be a serious outbreak of the Hessian fly in Ontario next year.

The corn ear worm is effecting marked damage to canning corn in sections of southern Ontario.

Heavy infestations of the wheat stem sawfly are reported from parts of Manitoba and Saskatchewan. In the latter province the wheat stem maggot occurs generally and is causing moderate damage.

The gladiolus thrips continues to be a serious pest of gladioli in Ontario. It is reported to be more noticeable in southern Quebec than was the case last year.

A European mirid, Melanotrichus concolor Kirsch, has been taken for the first time in Canada, at Nanaimo, B. C. This insect attacks broom; which is more or less of a pest in the region where the insect has been found.

The outbreak of sod webworms (Crambus spp.), which caused material damage to lawns and grass sod in southwestern Ontario in 1931, appears to have completely subsided, no infestations having been found this season.

The Mexican bean beetle is occurring in many localities in southern Ontario. It is more prevalent than previously recorded, and in some instances has caused quite severe damage in market gardens. Weather conditions have been favorable to its development this year.

Indications point to a more than usually heavy infestation of the imported cabbage worm in Ontario with resulting severe damage to cruciferous crops.

A marked reduction in the amount of codling moth injury in the Niagara district, Ont., is believed probable, as weather conditions have been unfavorable to the insect. In unsprayed orchards of eastern Ontario, however, damage to fruit by this species is quite striking.

In the Gaspé Peninsula of Quebec only a small percentage of the larvae of the European sawfly Diprion polytomum Hart., which overwintered in cocoons in the ground, emerged this year. Defoliation of white and black spruce is much lighter this season than in 1931. A serious outbreak of the eastern spruce beetle has developed over a large part of this territory.

The balsam woolly aphid is spreading in the Maritime Provinces, and the associated gout disease has become general in Nova Scotia.

The infestation of the beech scale continues to develop in Nova Scotia and southern New Brunswick and many trees are dying, particularly in western Nova Scotia.

The walnut caterpillar is very prevalent in southern Ontario, where the majority of black walnut trees have been partially or wholly defoliated by this insect.

In certain localities in Manitoba and Saskatchewan, willows and poplars have suffered severe defoliation by the willow leaf beetle. In sandy sections of Manitoba an outbreak of the aspen poplar leaf beetle has occurred.

There are indications that the severe outbreak of bark beetles in yellow pine in the Aspen Grove area of British Columbia is now subsiding.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- South Carolina. F. Sherman (September 24): Fields near Clemson College were stripped by Schistocerca americana Drury the latter part of August.
- Florida. J. R. Watson (September 24): Grasshoppers, S. americana, are very abundant over all northern Florida.
- Ohio. T. H. Parks (August 29): Melanoplus femur-rubrum DeG. and M. differentialis Thos. are moderately abundant on clover and in meadows. (September 21): Grasshoppers are more abundant than usual.
- Indiana. J. J. Davis (September 27): Grasshoppers were reported destructive to cabbage at Jasper, September 4.
- Wisconsin. E. L. Chambers (September 27): Grasshoppers have been checked by disease, parasites, and hard rains much earlier this year than last and they are very scarce in the sections where they were most abundant during mid-summer, which is the area lying in the north central portion of the State.
- Minnesota. A. G. Ruggles (September 26): Grasshoppers are moderately abundant in 50 counties.
- North Dakota. T. T. Kristjanson (August 11): Much damage in Pierce County. The largest damage is in the northwestern part of the county covering 4 townships. A great many farms were a total failure, all feed crops and flax having been damaged. Grasshoppers are very numerous in places where they were not found 10 days ago. The damage is very largely to oats, barley, and flax.
J. A. Munro (September 20): There has been a marked reduction of adult M. bivittatus Say in the Fargo vicinity, due largely to the parasitic fly Sarcophaga kellyi Aldrich.
- Iowa. H. E. Jaques (September): Grasshoppers are in evidence as usual throughout much of the State, but have done comparatively little damage.
- Nebraska. M. H. Swenl: (August 25-September 20): Only scattering reports of damage were received during the period here covered, and relatively few of them were from the counties that were so heavily infested in 1931 and early in the present year. The chief complaint during September was of the red-legged grasshopper (M. femur-rubrum) attacking the edges of fields of young alfalfa just coming up, or working on the edges of fields of broom grass that had been sown in August. These complaints came especially from Jefferson, Gage, and Lancaster Counties.
- Kansas. H. R. Bryson (September 21): Very few reports of grasshopper injury in any part of the State. About the normal number of inquiries regarding methods for the control of the pest in newly sown alfalfa have been received.
- Oklahoma. C. F. Stiles (September 3): Grasshoppers are still quite numerous in some southern and southwestern sections of the State.
- Alabama. J. M. Robinson (September 22): Grasshoppers are moderately abundant in pastures in Auburn.

Mississippi. C. Lyle (September 23): A correspondent at Eden reported on August 25 severe injury to beans, peas, corn, and tomatoes.

Utah. C. J. Sorenson (June and July): Three separate swarms were observed which were separated from each other by about 2 miles near Hayden, Uintah Co. The swarms remained together as such until near the middle of August, when they had disappeared from the area, probably scattering throughout the near-by cultivated areas. This is the first year that Camnula pellucida Scudd. has been observed or reported.

G. F. Knowlton (September 23): Many species of grasshoppers are scarce to moderately abundant and very abundant in some localities in northern Utah, where they are laying eggs.

New Mexico. J. R. Eyer (September 1): Grasshoppers are giving us considerable trouble this season.

California. S. Lockwood (September 21): During July and August C. pellucida destroyed the native clovers and much of the wild forage grasses on about 1,000 acres of Hope Valley, Alpine Co.

MORMON CRICKET (Anabrus simplex Hald.)

Utah. C. J. Sorenson (July 5 to July 23): The Mormon cricket has been present within a radius of 20 miles during the past 10 years, but has never invaded the Valley before. Heretofore the infestation has been restricted to the mountain and hillside areas. Invasion of the cultivated fields in the Jensen district was prevented this summer by the Green River forming a barrier to the insects. The cultivated crops, consisting, in the main, of garden crops, corn, and potatoes, on the half-dozen ranches located on the east side of the Green River were completely devoured by the migrating crickets within about three days. (Det. by W.W. Henderson.)

WHITE GRUBS (Phyllophaga spp.)

Southeastern United States. R. A. St. George (September 26): Reports from a nursery located near Raleigh, N. Car., indicate that the extensive injury that was caused by the activity of white grub larvae to the roots of pine seedlings during the early summer months has subsided during September. An examination of the soil revealed the percentage of large numbers of grubs which had been parasitized. Many wasps were found flying over the seed beds and digging into the ground during the month. Several were submitted for determination and were found to be Campsomeris (Trielis) octomaculata race hermione (Banks). They are known to be parasitic on white grub larvae. Several species of Phyllophaga larvae have been received from the vicinity.

Other reports from a nursery near Columbia, S. Car., indicate that the activity of the grubs may have been influenced somewhat by moisture conditions of the soil. A condition of drought has been experienced during the early spring and summer months in the vicinity and very few grubs have been found. During last fall they were present in large numbers and very destructive. During August an examination of the soil to a depth of 4 feet did not reveal their presence.

During September, however, simultaneously with the first rains they were found within the first 3 inches of soil and became injurious again. During

1930 they were observed to be more numerous and destructive in one portion of this nursery than the rest and the only reason for this appeared to be the presence of a water faucet, around which the ground was observed to be somewhat more moist than in the rest of the nursery.

Pennsylvania. J. N. Knull (September 16): White grubs have been very abundant in the Mont Alto nursery this year. Japanese larch and red pine seemed to suffer most.

Ohio. T. H. Parks (September 21): White grubs are very abundant--worst in years.

Kentucky. M. L. Didlake (August 30): White grubs are very abundant--injury most severe in years.

W. A. Price (September 26): White grubs are moderately abundant on straw-berries.

Illinois. J. H. Bigger (September): White grubs are very abundant in western Illinois. A survey indicates that they are more numerous than last period.

Michigan. R. Hutson (September 26): White grubs are very abundant in the vicinity of Battle Creek and Kalamazoo.

Wisconsin. E. L. Chambers (September 27): White grubs have been abundant in many sections of the State and have been found doing serious injury in some of our nurseries where the soil was not treated.

C. L. Fluke (September 26): White grubs are very abundant in Trempealeau, Rusk, Jefferson, Jackson, and Milwaukee Counties, Trempealeau being particularly heavily infested, in pasture and corn.

Nebraska. M. H. Swenk (September 20): White grubs are moderately abundant in bluegrass lawns in central Nebraska.

Virginia. C. R. Willey (September 26): I visited near Conicville, in Shenandoah County on September 23, observing grub-worms damaging corn and timothy. Found 3 to 5 white grubs in every hill of corn examined except several "good" hills in which we did not expect to find them. The field contained 7 acres and more than 99 per cent of the hills appeared infested. The farmer said many farms around him were as "bad off" as he. I was not able to scout further, but reported find to county agent located at Woodstock. This corn followed hay which had been down two years.

GREEN JUNE BEETLE (Cotinis nitida L.)

Indiana. J. J. Davis (September 27): Grubs were reported very abundant and destructive to lawns at Evansville, September 23.

WIREWORMS (Elateridae)

South Carolina. A. Lutken (September 24): Horistonotus uhleri Horn is very abundant in the southeastern part of the state.

Florida. K. L. Cockerham. (September 15): One specimen of Heteroderes laurentii Guer. was recently given to me from material from Gainesville. This specimen was collected December 31, 1931. It adds one more locality record for the State.

Colorado. G. M. List (September 20): Wireworms are moderately abundant in potato fields in Morgan County.

BUMBLE FLOWER BEETLES (Euphoria spp.)

Vermont. H. L. Bailey (September 27): Bumble flower beetle (E. inda L.) reported as plentiful on sweet corn in Rockingham.

Kentucky. M. L. Didlake (August 30): Fruit chafers (E. sepulchralis Fab. and E. inda) are injuring ears of corn, eating grains entirely off the cob, the two species being associated in one ear in every instance in Perry, Knott, Pike, Elliott, Floyd, and Lawrence Counties.

Wisconsin. C. L. Fluke (September 26): The bumble flower beetle (E. inda) is moderately abundant in Outagamie County; it is destroying willows.

North Dakota. J. A. Munro (September 20): E. inda was reported as prevalent during the latter part of August in Ward and Barnes Counties.

Kansas. E. R. Bryson (September 21): Diggings in cultivated and grass lands at Manhattan reveal the presence of a large number of grubs. As many as 15 per square feet have been found.

Alabama. J. M. Robinson (September 22): E. sepulchralis is moderately abundant in Empire on corn silks, in Danville on cotton bolls, and in Auburn on okra pods.

Mississippi. C. Lyle (September 23): A correspondent at Pinckneyville, Wilkinson Co., sent us on September 7 adults of E. sepulchralis with the following statement: "They are eating young corn, both the roots and leaves."

CEREAL AND FORAGE-CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

New York. W. E. Blauvelt (August 24): Hessian Fly Survey, 1932:

County	Per cent Infestation	County	Per cent Infestation
Cayuga	9.33	Tompkins	9.1
Erie	11.5	Wayne	7.38
Genesee	10.4	Wyoming	8.88
Livingston	7.	Yates	4.
Monroe	9.33	Ontario	6.93
Niagara	15.2	Orleans	13.8
Onondaga	12.	Seneca	14.5

State average 9.95

Pennsylvania. E. J. Udine through C. C. Hill (August 22): Heavy infestations of the Hessian fly prevail throughout most of the State. A culm count from many

widely distributed samples showed a 32 per cent infestation for the State. The districts surveyed and infestations found in each district are as follows:

District No.	Per cent Infestation	District No.	Per cent Infestation
1	30	7	15
2	19	8	34
3	23	9	34
4	54	10	58
5	12	11	37
6	45	12	12

The districts are as follows: Dist. 1, Counties of Allegheny, Beaver, Butte, Crawford, Lawrence, Mercer, and Venango; Dist. 2, Counties of Armstrong, Cambria, Clarion, Clearfield, Indiana, and Jefferson; Dist. 3, Counties of Center, Clinton, and Lycoming; Dist. 4, Counties of Columbia, Montour, Northumberland, Snyder, and Union; Dist. 5, Counties of Carbon, Luzerne, Monroe, and Schuylkill; Dist. 6, Counties of Greene and Washington; Dist. 7, Counties of Fayette, Somerset, and Westmoreland; Dist. 8, Counties of Bedford, Blair, and Fulton; Dist. 9, Counties of Dauphin, Huntingdon, Juniata, Mifflin, and Perry; Dist. 10, Counties of Adams, Cumberland, Franklin, and York; Dist. 11, Counties of Berks, Dauphin, Lebanon, Lehigh, and Northampton; Dist. 12, Counties of Bucks, Chester, Lancaster, and Montgomery.

Delaware. E. J. Udine through C. C. Hill (July 30): Light infestations occurred throughout the State. The infestations found in each county are as follows:

County	Average Per cent Infestation
Kent	11
New Castle	9
Sussex	12
State average	10.6

Maryland. E. J. Udine through C. C. Hill (July 30): Heavy infestations were found throughout most of the wheat-growing districts of western Maryland and a culm count for this section showed a 32 per cent infestation. Light infestations occurred in the eastern shore, with an average infestation of culms of 10 per cent.

Virginia. J. S. Pinckney through C. C. Hill (June 30): A summer survey of different districts of this State showed the following infestations:

District No.	Per cent Infestation	District No.	Per cent Infestation
1	16	4	2
2	19	5	18
3	6	6	4
State infestation	10.8		

Counties in the various districts are: No. 1, Augusta, Frederick, Rockbridge, Rockingham, and Shenandoah; No. 2, Fairfax, Fauquier, Loudoun, and Prince William; No. 3, Caroline, Hanover, Louise, Orange, and Spotsylvania; No. 4, Essex, King George, Richmond, and West Moreland; No. 5, Smyth, Washington, and Wythe; No. 6, Campbell, Franklin, Halifax, Henry, and Pittsylvania.

North Carolina. J. S. Pinckney through C. C. Hill (June 30): A summer survey of the central part of the State showed wheat culms infested to the amount of 5 per cent. The section surveyed included the following:

County	Average per cent infestation
Catawba	3
Chatham	2
Davidson	11
Iredell	1
Randolph	6
Rowan	4
State infestation	4.5

Ohio. T. H. Parks (September 20): While we had three times as many flaxseeds present in the 1932 crop as in the crop of 1931, very few flies have yet emerged and only a small number of eggs have been laid. The late summer and fall have been very dry with no rains to moisten the flaxseeds and hasten pupation. We are stressing the safe sowing dates this year. Hessian flies are moderately abundant--most abundant since 1920 and more than average.

Michigan. R. Hutson (September 26): The Hessian fly is moderately abundant.

Iowa. H. E. Jaques (September): The Hessian fly is scarce in Osceola, Crawford, Adams, Madison, Warren, Monroe, and Henry Counties. It is moderately abundant in Harrison, Mills, Montgomery, and Clinton Counties.

Missouri. L. Haseman (September 27): Breeding cage records for central and southeastern Missouri indicate that the flies began emerging earlier than usual this fall. Parasites in central Missouri are very abundant. One sample shows 56 per cent flax seeds parasitized, 37 per cent dead of disease apparently, and only 7 per cent alive. Some breeding cages are giving us no adults at all.

Nebraska. M. H. Swenk (August 25 to September 20): In Nebraska there are two distinct areas of infestation with the Hessian fly. The eastern area includes southeastern Nebraska, west to about Webster, and Howard Counties, and north to Nance, Platte, and Douglas Counties, and the infestation is heaviest toward the western end of this area. The western area of infestation centers in Phelps and Kearney Counties, but takes in parts of the adjoining counties. Weather conditions in these two areas have been quite different during the summer, the August rainfall in the more eastern area having been almost twice the normal, while in the western area it was less than normal. As a result, over a large portion of southeastern Nebraska Hessian fly emergence to date (September 20) has been only a little later than normal. This has especially been true in some of the eastern and extreme southeastern counties, where normal or greater rainfall was received during the month of August. In general, the emergence in the counties west to Jefferson and Nance Counties, and thence northward, is not very far from normal, though in some of the included counties it may be a few days later. But there is a group of counties in south-central Nebraska where rainfall has been deficient and in these emergence has been delayed. According to our present information, in several counties west and south of Fillmore County emergence is delayed about as at our Fillmore County field observation station, where on September 20 about 25 per cent of the flies of the main fall brood had emerged. In a group of counties still farther south and west emergence is still more delayed, about as at our Phelps County field

observation station, where on September 20 only about 10 per cent of the flies had emerged. It is very likely that wheat sowing will need to be delayed more than usually late in these western areas this fall.

Kansas. H. R. Bryson (September 21): Observations regarding the abundance of Hessian fly at Manhattan, reveal the fact that a small early fall emergence gave rise to a very few flaxseeds in the volunteer wheat. A much larger emergence took place during the second week of September. Small larvae are present in the volunteer. Flaxseeds have been reported as abundant in volunteer wheat in south-central Kansas.

CORN

CORN EAR WORM (*Heliothis obsoleta* Fab.)

Maine. H. B. Peirson (September 8): Full grown larva taken at Bar Harbor.

Connecticut. B. H. Walden (September 24): Corn ear worm very abundant.

New Jersey. T. J. Headlee (September 6): The corn ear worm is very abundant.

Pennsylvania. J. N. Knull (September 1): The corn ear worm is moderately abundant in Franklin County.

North Carolina. W. A. Thomas (September 10): Several reports have reached the laboratory within the past few days indicating that this insect is doing considerable damage to snap beans by boring into pods before the beans are ready for harvest.

Ohio. T. H. Parks (September 20): These larvae are very abundant on sweet corn with almost every ear infested. A few of the worms were found feeding on tomato plants in a greenhouse near Cleveland.

Indiana. J. J. Davis (September 27): The corn ear worm was reported destructive to chrysanthemum buds in a greenhouse at Columbus, September 8.

Illinois. W. P. Flint (September 22): The corn ear worm has been extremely abundant in Illinois during September. Actual counts of the ears in the field in western Illinois showed 72 per cent infested.

J. H. Bigger (September): Corn ear worms are very abundant. A survey in 50 fields in Morgan County shows 53 per cent of ears infested during the first part of September.

M. D. Farrar (September): The corn ear worm is very abundant. Heavy flights of adults occurred the first two weeks of September.

Kentucky. W. A. Price (September 26): The corn ear worm is very abundant, and is responsible for much injury to corn, tomatoes, and dahlias.

Michigan. R. Hutson (September 26): The corn ear worm is very abundant.

Wisconsin. E. L. Chambers (September 27): The corn ear worm has been about as serious this fall as last fall on the late sweet corn and pop corn and they have gotten into a number of greenhouse establishments where they have proven very serious to chrysanthemums and roses.

Minnesota. A. G. Ruggles (September 26): The corn ear worm is very abundant around St. Paul and Minneapolis.

Iowa. H. E. Jaques (September): The corn ear worm has shown up abundantly in late corn.

Missouri. L. Haseman (September 27): Where rainfall has been deficient, a large population will again go into winter quarters, but the situation is less serious than last fall.

Kansas. H. R. Bryson (September 26): Late sweet corn at Manhattan is heavily infested.

Oklahoma. C. F. Stiles (September 23): The corn ear worm is very abundant in the greater part of the State. It is abundant in cotton bolls and in heads of grain sorghums.

Idaho. R. W. Haegeler (September 21): In southwestern Idaho all field corn is badly infested. Approximately 80 to 90 per cent of the ears show some damage with the feeding seldom extending more than 1 inch back on the tip of the ear.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Florida. F. S. Chamberlin (September 6): The armyworm is prevalent over most of Gadsden County. Severe injury is confined to small areas at the present time.

Maryland. E. N. Cory (September 22): Fall armyworm reported in Cecil County.

STALK BORER (Papaipema nebris nitela Guen.)

New Jersey. T. J. Headlee (September 6): The stalk borer is moderately abundant.

Kentucky. W. A. Price (September 26): The stalk borer is moderately abundant on dahlias and corn.

Michigan. R. Hutson (September 26): The stalk borer is moderately abundant.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

Virginia. H. G. Walker (September 27): The larger stalk borer is very abundant. Practically 100 per cent of the stalks are infested in some fields in Norfolk.

North Carolina. W. A. Thomas (September 21): Late corn at Chadbourn has been subjected to attacks to a greater extent this season than in former years. The injury has been so severe as to cause much of the corn to break off at the ground before reaching maturity. Fully 95 per cent of a field of corn near the laboratory was found to be infested.

CHINCH BUG (Blissus leucopterus Say)

Connecticut. R. B. Friend. (September 20): In three instances in New Haven the grass in large lawns has been almost entirely killed.

Ohio. T. H. Parks (September 15): Chinch bugs are very abundant in many corn-fields of northwestern Ohio. The second generation is now from one-half to full grown and has caused some injury. We now have a population capable of doing very serious damage next year unless controlled.

Illinois. M. D. Farrar. (September): The chinch bug is moderately abundant in central Illinois but above normal for this area.

J. H. Bigger (September): Chinch bugs are very abundant. A chinch bug survey September 1 to 10, indicates area of danger to next year's crops in all the central portion of Illinois and a considerable area on the western border of State, with possible danger of infestation in area between.

Wisconsin. E. L. Chambers (September 27): Chinch bugs in Pepin, Buffalo, Pierce and Trempealeau Counties proved to be serious for the first time in many year and continued until the corn was cut for the silo.

Iowa. H. E. Jaques (September): Chinch bugs have been much in evidence in southern Iowa all summer and seem to threaten serious danger for next year.

Nebraska. M. H. Swenk (September 20): The chinch bug is moderately abundant in southeastern Nebraska.

Kansas. H. R. Bryson (September 21): The second generation was quite abundant in fields in south-central and eastern Kansas. Injury to sorghums was very much in evidence during August through Butler, Greenwood, Chase, Allen, Lyon, Anderson, Coffey, Franklin, and Miami Counties. The extremely dry weather in Butler County aided the bugs in their destruction. Chinch bugs of the second generation killed out a few of the more susceptible varieties of sorghums in the sorghum breeding nursery at the college farm this summer. A correspondence report from Hazelton, Barber County, also records chinch bugs injuring kafir.

CORN LEAF APHID (Aphis maidis Fitch)

North Carolina. W. A. Thomas (August 25): A very heavy infestation is now present on late corn at Chadbourn, attracting large numbers of Diptera and Hymenoptera on these plants. In some instances the leaves and stems of the corn plants are completely covered with aphids. This, no doubt, will somewhat reduce the yield of grain on the infested plants.

SAY'S STINK BUG (Chlorochroa sayi Stal)

New Mexico. J. R. Eyer (September 1): A recently reported pest is the grain bug (Chlorochroa sayi) which has appeared all over the State and is particularly injurious to kafir corn in western New Mexico.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Utah. C. J. Sorenson (Season 1931 and 1932): Seven years ago the alfalfa weevil was practically unknown in the Uintah Basin. Since 1925 it has gradually spread and increased until practically every alfalfa field suffered considerable damage in 1932. The first serious damage for the Basin as a whole occurred in 1931,

California. A. E. Michelbacher (September 19): The alfalfa weevil at both Pleasanton and Niles can be found in about the same numbers as a month ago. Larvae in all stages of development can be collected. In the Pleasanton area the weevils are rather scarce, while around Niles they can be found rather easily.

BEEF WEBWORM (Loxostege sticticalis L.)

Utah. C. J. Sorenson (July 3 to August 1): This is the first year within the past ten, at least, that this insect has been recognized as doing damage in alfalfa fields of Duchesne and Uintah Counties. Larvae and moths were present in varying numbers in practically all alfalfa fields. In about 10 or 15 fields, in widely separated areas, serious damage was done in fields of from 20 to 100 acres. Moths became very numerous beginning August 1, in the vicinity of these latter fields, and there were some moths in all fields after the latter date to September 1. Neither eggs nor larvae resulting from the August brood of moths could be found up to September 5.

FRUIT INSECTS

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Georgia. C. H. Alden (September 21): The codling moth is moderately abundant at Cornelia. Very few larvae are pupating under the bands. A few moths are being caught in the bait traps.

Ohio. T. H. Parks (September 21): The codling moth is moderately abundant--more so than average.

Illinois. W. P. Flint (September 22): The codling moth continued to emerge and enter apples during the first half of September. In many orchards more damage was done to Jonathan and Grimes during this period than at any other time during the year.

Kansas. H. R. Bryson (September 26): The codling moth has been unusually destructive in Kansas this season. This situation may be attributed to three things; namely, the heavy carry-over of moths from the 1931 season, weather conditions which were favorable to the moth, and a very light set of fruit.

Kansas. D. Isely (September 26): The codling moth has been unusually destructive, probably causing a larger percentage of loss to the apple crop than in any year since 1918, with the possible exception of 1925.

Colorado. G. M. List (September 20): The codling moth is very abundant in Mesa County, and moderately abundant in other sections.

Idaho. R. W. Haegele (September 21): Injury is greater than normal in the fruit district of southwestern Idaho.

New Mexico. J. R. Eber (September 1): Codling moths are giving us considerable trouble this season.

Washington. E. J. Newcomer (September 20): Since the middle of August the number of moths caught in baits has been considerably less than for the corresponding period in 1931. The total for the second brood was 8,800 in 1931 and only 5,600 in 1932. However, the percentage of infestation is about the same as last year, owing to light crops or, in some cases, less careful methods of control. The Jonathan crop is reported by horticultural inspectors to average 30 per cent wormy.

Oregon. D. C. Mote (August): Codling moths are reported in the Willamette Valley. The peak of egg deposition of the second brood was reached August 26.

California. H. J. Ryan (September 26): A large number of larvae hatched out late in the season. Codling moth control in pears in the Antelope Valley of northern Los Angeles County was much more satisfactory this season than last as was evidenced by the number of wormy fruits found by the packing houses this last month; control in walnuts was also satisfactory. In general pear orchards that were sprayed at least three times had less than 5 per cent wormy fruit.

S. Lockwood (September 21): The codling moth has either been far more prevalent in pear orchards in the Sacramento delta district this year or control measures have been less effective, since the percentage of culled fruits has been much greater than heretofore.

FRUIT TREE LEAF ROLLER (Cacoecia argurospila Walk.)

Pennsylvania. J. N. Knull (September 14): During the past season (1932) the V-marked leaf-roller has been abundant in the northeastern part of Pennsylvania. In many places there has been severe injury to the oak foliage.

APPLE SEED CHALCID (Syntomaspis druparum Boh.)

Maine. C. R. Phipps (September 22): The egg punctures are quite numerous in certain orchards.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Minnesota. A. G. Ruggles and assistants (September): The apple curculio is very abundant in southeastern Minnesota.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Connecticut. P. Gorman (September 24): The apple maggot is present in New Haven County.

Minnesota. A. G. Ruggles and assistants (September): The apple maggot is very abundant in poorly sprayed orchards in Houston County.

APPLE APHID (Aphis pomi DeG.)

New York. N. Y. State Agr. Expt. Sta. (September 1): Aphis pomi is very abundant in western New York.

LEAFHOPPERS (Cicadellidae)

Maine. C. R. Phipps (September 22): Apple leafhoppers are very abundant in York and Cumberland Counties.

New Hampshire. L. C. Glover (September 22): Apple leafhoppers are moderately abundant.

Vermont. H. L. Bailey (September 27): Apple leafhoppers are very abundant at Topsham.

Connecticut. B. H. Walden (September 24): Apple leafhoppers are very abundant. P. Gorman (September 24): The apple leafhopper (Typhlocyba pomaria McA.) is present in New Haven and Hartford Counties; commercial control is not good.

New York. N. Y. State Agr. Expt. Sta. (September 1): Second-generation apple leafhoppers are now appearing and are very abundant in western New York.

Kentucky. M. L. Didlake (August 30): Apple leafhoppers are now abundant, although they were not numerous early in the season.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Illinois. M. D. Farrar (September): The San Jose scale is from moderately to very abundant in central Illinois. Fruit in many districts is showing light scale populations and there are a few areas where it is heavily infested.

Michigan. R. Hutson (September 26): The San Jose scale is very abundant.

Wisconsin. E. L. Chambers (September 27): The San Jose scale has been becoming more abundant and new infestations are being found every few weeks but all of them are located in some dozen southeastern counties. The scale has not as yet gotten into the commercial apple-growing sections.

Colorado. G. M. List (September 20): The San Jose scale has recently been found to infest several orchards quite heavily in Montezuma County. Previous to this it was known to exist only in Mesa and Delta Counties and has been kept well under control in these sections.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Connecticut. P. Gorman (September 24): The work of the peach tree borer is apparent in many orchards in New Haven County.

Virginia. H. G. Walker (September 27): The peach borer is moderately abundant in Norfolk.

Georgia. O. I. Snapp (September 20): The peak of moth emergence occurred in Fort Valley during the last week-end. Predators--mice or skunks, or both--have visited practically every peach orchard in this locality during recent months for pupae and we have found hundreds of empty cocoons near the base of peach trees which these predators have dug out of the ground or tree and eaten the pupae. The peach borer infestation should be greatly reduced this year on account of the activity of these predators.

Alabama. J. M. Robinson (September 22): The peach borer is moderately abundant on peaches.

Mississippi. C. Lyle and assistants (September): The peach borer is reported as abundant from Monroe, DeSoto, and Lee Counties, and moderately abundant from the greater part of the State.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. P. Garman (September 24): More abundant in northeastern portion of the State than elsewhere. New Haven and Fairfield Counties are reported to have low infestation.

New York. P. J. Parrott (September 22): Moderately to very abundant in western New York.

Pennsylvania. T. L. Guyton (September 24): The oriental fruit moth is scarce, about 5 per cent of the fruit being wormy in the Harrisburg district.

Georgia. O. I. Snapp (September 20): This insect has caused more than usual injury near the city limits of Fort Valley, but as usual there was practically no fruit infestation in this locality.

C. H. Alden (September 21): The oriental fruit moth is moderately abundant at Cornelia. Adults are still being caught in bait traps.

Ohio. T. H. Parks (September 15): The Elberta crop of Ottawa County was harvested with very little loss from oriental fruit moths. The crop was harvested the first week in September and matured too early to carry many larvae. Elberta, harvested in Lucas County ten days later, had from 20 to 30 per cent infestation but without any serious loss of fruit.

Illinois. W. P. Flint (September 22): There have been heavy flights of adults in the southern part of the State.

Kentucky. W. A. Price (September 26): The oriental fruit moth is moderately abundant.

Kansas. H. B. Hungerford (September): The oriental fruit moth was found for the first time in eastern Kansas.

Alabama. J. M. Robinson (August): The oriental fruit moth is moderately abundant in Brewton.

Mississippi. C. Lyle (September 23): Peach twigs injured by larvae were received during the past month from Copiah, George, Jasper, and Jefferson Counties. Severe injury was reported in some cases.

PLUM CURCULIO (Conotrachelus nemuphar Hbst.)

Georgia. O. I. Snapp (September 19): Jarring records show that adults are still in Fort Valley peach orchards, although the peach harvest has been over for two months. The curculio population has increased recently in some orchards as a result of the late emergence of first-generation adults, and from present indications more curculios will enter hibernation this fall than a year ago. First-generation adults deposited a few second-generation eggs during the latter part of August, but the very small second generation was of little, if any, economic importance in the Georgia peach belt this year. On account of

the increase in the curculio population, we anticipate a heavy infestation in 1933 if there is no more than the usual mortality during hibernation.

PEAR

TARNISHED PLANT BUG (Lygus pratensis L.)

Washington. E. J. Newcomer (September 20): Examination of Bartlett pears in an orchard in Yakima County that has been troubled for some years with this pest showed that over 15 per cent of the pears were made unmarketable by the feeding and oviposition punctures of the bugs.

CHERRY

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana. J. J. Davis (September 27): The shot-hole borer was reported from Indianapolis and Shelbyville the latter part of August. At the latter place, on August 29, they were injuring cherry leaf buds.

Ohio. T. H. Parks (September): More than the usual number of complaints of injury to peach and cherry have been received this summer, probably owing to the extended period of drought.

Alabama. J. M. Robinson (September 22): The shot-hole borer is very abundant in Fairfield in Chinaberry.

Utah. G. F. Knowlton. (August 11): Large numbers of adults emerging from wood of apricot trees in Willard.

PLUM

A PYRALID (Mineola scitulella Hulst)

Idaho. R. W. Haegeler (September 21): Loss from the destructive prune worm is as great as ever in southwestern Idaho, with increased damage in some orchards.

RASPBERRY

RASPBERRY CANE BORER (Oberea bimaculata Oliv.)

Minnesota. A. G. Ruggles and assistants (September): The raspberry cane borer is very abundant on red raspberries in Hennepin County.

Mississippi. C. Lyle (September 23): Larvae tentatively identified as O. bimaculata were collected from Youngberry plants at Wiggins, Stone Co., on September 5.

BLACK-HORNED TREE CRICKET (Oecanthus nigricornis Walk.)

Indiana. J. J. Davis (September 27): The common tree cricket egg punctures were reported common in raspberry canes at Darlington.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Kentucky. M. L. Didlake (August 30): Leafhoppers on grape caused severe injury to point of defoliation, in central and eastern Kentucky.

Utah. G. F. Knowlton (September 13): Grape leafhoppers are causing serious damage to ornamental Virginia creepers in many parts of northern Utah. In some cases the leaves have all fallen from the vines. Serious browning and spotting of the leaves, with less extensive leaf fall, is common.

California. S. Lockwood (September 21): The grape leafhopper, as last year, has been responsible for considerable loss to the vineyardists of California from Sacramento south into Kern County. However, the damage has been more localized than last year and not so severe as the past season except in a few vineyards.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Kentucky. M. L. Didlake (August 30): The grape leaf folder is abundant in western Kentucky.

PACIFIC RED SPIDER (Tetranychus pacificus McG.)

California. S. Lockwood (September 21): The spider mite T. pacificus this year has extended its range on European types of grapes from San Joaquin and Stanislaus Counties, where it has been known before, to individual vineyards in Fresno, Tulare, and Kern Counties, although it may be that some of this damage in the southern counties has occurred from the feeding of another unknown mite.

PECAN

PECAN LEAF CASE BEARER (Acrobasis palliolella Rag.)

Georgia. J. B. Gill (September 25): A very heavy infestation of the pecan leaf case bearer has occurred in many pecan orchards in southern Georgia. The immature larvae are now going into hibernation by constructing hibernacula on the buds.

Mississippi. C. Lyle and assistants (September): Leaf case bearers are moderately abundant on pecan at Ocean Springs.

PECAN PHYLLOXERA (Phylloxera devastatrix Perg.)

Mississippi. C. Lyle and assistants (September): On August 31 a heavy infestation was observed on a large pecan tree near Utica.

CITRUS

CITRUS MEALYBUGS (Pseudococcus spp.)

California. H. J. Ryan (September 26): Citrus mealybugs (Pseudococcus citri Ris) have been noted from several localities as more prevalent than for several years.

also P. maritimus Ehrh. and P. adonidum L. Liberations of Cryptolaemus montrouzieri Muls. were necessary in some parts of Los Angeles County for these species. The citrophilus mealybug (P. gahani Green) has been scarce all season with no damage reported. This is believed entirely due to the Australian parasites Coccophagus gurneyi Comp. and Tetraneura pretiosus Timb., successfully introduced by the University of California Citrus Experiment Station.

BLACK SCALE (Saissetia oleae Bern.)

California. H. J. Ryan (September 26): The black scale was fully 30 days late in completing its hatch throughout Los Angeles County. Ordinarily fumigation can be started in some districts by July 1. This year the delayed hatch made it necessary to postpone treatment until after August 1. Areas where work ordinarily begins July 15 were not able to start until after August 15.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

California. H. J. Ryan (September 26): Infestations are lighter this season as compared with the last three years. This is generally thought to be due to normal cool temperatures last winter, which evened the broods so that control measures this season were more effective than in previous seasons.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia. J. B. Gill (September 25): Within the past three weeks we have had several reports of infestations in various localities in southern Georgia. Ornamental plants, especially Pittosporum and spiraea, are infested.

CITRUS WHITEFLY (Dialeurodes citri Riley & How.)

California. H. J. Ryan (September 26): A new infestation was found by survey crews in August about 4 miles northeast of the Pasadena infestation found last summer. Infestations were found on two adjoining city blocks. Detailed survey of the entire Pasadena area has not been completed and it seems probable that the existing infestations have been limited.

TRUCK - CROP INSECTS

BLISTER BEETLES (Meloidae)

Delaware. L. A. Stearns (August 29): Blister beetles, Epicauta marginata Fab. reported at Bridgeville on swiss chard and potatoes.

Maryland. E. N. Cory (September 22): The black blister beetle, E. pennsylvanica DeG., was reported as general, attacking gladiolus and dahlias.

Virginia. H. G. Walker and L. Anderson (September 26): Several species of blister beetles are rather abundant and have been causing some damage to ornamentals and truck crops at Norfolk.

North Carolina. W. A. Thomas (September 17): The striped blister beetle, E. vittata Fab., has recently become fairly numerous on many farms in the Chadbourn area. The principal damage occurs on Irish potatoes, tomatoes, collards, and fall turnips. Most of the farmers are hand-picking as a means of control.

South Carolina. A. Lutken (September 24): Margined blister beetles, E. marginata, have been destructive in gardens during the month.

Indiana. J. J. Davis (September 27): Blister beetles were reported abundant at Bryant, September 15, with no information on host or species. E. vittata were destructive to potatoes at Inglefield, August 29, and to cabbage at Jasper September 7.

Kansas. H. R. Bryson (September 21): These insects have been rather abundant in gardens, not only in the northern and western parts of the State but also in eastern Kansas. Two reports, one from Onaga in Pottawatomie County, and one from Muscotah in Atchison County, record injury to tomatoes and potatoes particularly.

Mississippi. C. Lyle and assistants (September 17): Blister beetles are very abundant at Ocean Springs on Clematis. The striped blister beetle, E. vittata, is abundant over the seven northwest counties of the State. Blister beetles (E. marginata) were very abundant on Irish potatoes at Lexington, Holmes Co., on September 17. (Abstract, J.A.H.)

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Louisiana. C. E. Smith and C. O. Hopkins (September 9): The banded cucumber beetle was moderately abundant on snap beans in St. Martin Parish.

Mississippi. C. Lyle and assistants (September 20): The banded cucumber beetles are attacking sweetpotato vines in the vicinity of Agricola, almost causing defoliation. (September 16): Banded cucumber beetles are very numerous at Perkinston and Wiggins, causing heavy injury to beans. (Abstract, J.A.H.)

Alabama. J. M. Robinson (September 22): The belted bean beetle is very abundant on lima beans and corn silks in Ramer; on peas and other vegetables, okra, and beans in Auburn (greatest abundance in Auburn since 1926); on vegetables in Atmore.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Florida. J. R. Watson (September 24): The Colorado potato beetle is moderately abundant on peppers and eggplant in Alachua County.

Colorado. G. M. List (September 20): The Colorado potato beetle is more numerous than usual in the eastern half of the State.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Colorado. G. M. List (September 20): The potato flea beetle is more numerous than usual. Considerable tuber injury is being found, especially in Weld and Morgan Counties. In other portions of the State the tuber injury is not serious, but in some localities, especially in the southwestern part of the State, the foliage injury has been more extensive than usual.

TOBACCO WORM (Phlegethontius quinquemaculatus Haw.)

Iowa. C. N. Ainslie (August 24): This species, usually present in limited numbers, has been abundant this season in Sioux City and has done much injury to potatoes and tomatoes, especially the latter. Commercial growers have been compelled to hand-pick the larvae to save the vines from destruction. The adults are very numerous this summer, feeding on flowers.

POTATO LEAFHOPPER (Emboasca fabae Harr.)

Wisconsin. E. L. Chambers (September 27): The potato leafhopper was very serious in some of the potato growing areas of northern Wisconsin, resulting in maturing the potatoes several weeks in advance of those sprayed.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

South Carolina. F. Sherman (September 24): The leaf-footed plant bug is abnormally abundant and destructive on tomatoes in weedy gardens.

Mississippi. C. Lyle (September 23): Specimens of L. phyllopus were received from Itta Bena, Leflore County, on September 3, with a report that they were abundant on tomatoes.

TOMATO STILT BUG (Jalysus spinosus Say)

Nebraska. M. H. Swenk (August 25--September 20): A tomato grower in Nance County reported during the last week in August that the spined stilt bug had caused severe damage to his crop by probing into the tomato blossoms and causing them to wither and fall off.

TOMATO PSYLLID (Paratrioza cockerelli Sulc)

Colorado. G. M. List (September 20): The injury from the potato psyllid became more apparent as the season advanced. In previous years the injury has been confined mostly to the early potatoes, but this season many of the late ones are seriously damaged. A recent survey has shown it to exist in all sections of the State.

RING-LEGGED EARWIG (Anisolabis annulipes Lucas)

Mississippi. C. Lyle (September 23): Irish potatoes infested were received from Hazlehurst, Copiah Co., on September 16.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Maine. C. R. Phipps (September 22): The Mexican bean beetle is moderately abundant.

New Hampshire. L. C. Glover (September 22): The Mexican bean beetle has been reported from 39 towns. The injury was severe in many cases. The towns reported range from the east to the west boundary of the State and from the south boundary north to Alton in the east center of the State and Lebanon on the west boundary.

Connecticut. B. H. Walden (September 24): The Mexican bean beetle is very abundant.

New York. N. Y. State Agr. Expt. Sta. (September 1): The Mexican bean beetle is moderately abundant in the western part of the State (Chautauqua and Erie Counties).

Pennsylvania. J. N. Knull (September 1): The Mexican bean beetle is very abundant.

Virginia. H. G. Walker (September 27): The Mexican bean beetle is from moderately to very abundant in Norfolk.

North Carolina. W. A. Thomas (September 15): There seems to be considerably more activity on cowpeas this season than heretofore. There has been a very heavy infestation in the Chadbourne area, and with the dying off of the spring and summer crops of beans, the insects seem to have transferred much more readily to cowpeas than heretofore. The injury to cowpeas, while not serious, is more or less conspicuous and has resulted in many of the growers reporting this injury.

South Carolina. A. Lutken (September 24): The Mexican bean beetle is moderately abundant in general.

Georgia. O. I. Snapp (August 30): Beans in a large field at Marshallville were damaged considerably. The insect was more abundant than usual in this locality during the late summer.

Ohio. T. H. Parks (September 21): Injury from the Mexican bean beetle continues to be severe in all parts of the State.

Indiana. J. J. Davis (September 27): The Mexican bean beetle has been destructive farther north in Indiana than in any previous year, doubtless the result of the mild winter of 1931-32.

Illinois. W. P. Flint (September 22): This insect has been causing appreciable damage to late beans in the east central part of the State.

Alabama. J. M. Robinson (September 22): The Mexican bean beetle is very abundant; general over northeastern portion of the State, Auburn and Wetumpka.

Colorado. G. M. List (September 20): The Mexican bean beetle has been a problem farther east from the foothill sections of the mountains this year than usual. Rather serious loss has occurred in a number of these sections that have hardly experienced the pest before. The infestation was heavy in LaPlata and Montezuma Counties in the southwestern part of the State, but less than usual in the counties just north of this.

New Mexico. J. R. Eyer (September 1): The Mexican bean beetles are giving us considerable trouble this season.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

North Carolina. W. A. Thomas (September 20): Adults have riddled much of the foliage on both beans and peas during the past few weeks. They seem to be exceptionally abundant for this period of the year and not only attack the foliage but the young beans as well. Attacking beans and cowpeas at Chadbourn.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Louisiana. C. E. Smith and C. O. Hopkins (September 9): The larvae did considerable damage to young snap beans in several fields examined in St. Martin Parish.

Mississippi. C. Lyle (September): Injured cowpea plants were received from Columbia, Marion Co., on September 10.

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

California. E. O. Essig (September 1): About 4,000 acres of blackeye beans infested in lower San Joaquin Valley (Merced, Stanislaus, and San Joaquin Counties) by second-brood worms, August 29-30. Serious injury to setting beans.

LIMA BEAN VINE BORER (Monoptilota pergratialis Hulst)

North Carolina. W. A. Thomas (September 16): The swellings on the bean vines caused by the larvae of this insect were found to be very abundant on a small garden plot of pole lima beans in the vicinity of Chadbourn. For

several years past this insect has not been present to any considerable extent in this area, but for some reason a heavy infestation is now developing.

BEAN LEAF ROLLER (Goniurus proteus L.)

Florida. J. R. Watson (September 24): The bean leaf roller is rather abundant and damaging beans.

A LEAFHOPPER (Empoasca filamenta DeL.)

Utah. G. F. Knowlton (September 13): This leafhopper is abundant on potatoes at Logan.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Florida. J. R. Watson (September 24): Bean leafhoppers are causing much trouble to beans; they are very abundant over all Florida.

GREEN STINK BUG (Acrosternum hilaris Say)

Kentucky. M. L. Didlake (August 30): The green stink bug is injuring lima bean pods in Shelby County.

BEAN THRIPS (Heliothrips fasciatus Perg.)

California. S. Lockwood (September 21): During August and September the bean thrips has been responsible for rather severe but localized damage to beans in the San Joaquin Valley. Near Westley in Stanislaus County approximately 1,200 acres have been defoliated to a marked degree. In Sutter County this insect, while present on all types of beans, has not been so severely injurious as in Stanislaus County but has dropped from 10 to 20 per cent of the leaves in some areas.

CABBAGE

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. H. G. Walker and L. D. Anderson (September 27): The harlequin bug, as reported last month, continues to be very injurious to cruciferous crops in tidewater Virginia. Several fields of kale, cabbage, and collards have been completely destroyed by this pest.

Maryland. E. N. Cory (September 22): The harlequin bug is reported as present generally, attacking cabbage.

Ohio. T. H. Parks (September 20): Complaints are still being received about injury to cabbage from this insect. All of these complaints come from counties in southern Ohio from Cincinnati to Marietta.

Indiana. J. J. Davis (September 27): The harlequin bug has had a wider distribution and more abundant in Indiana than ever before recorded. Until this year we have never had records in Indiana north of the tier of counties along the Ohio River. The last of August and in early September we had

reports of abundance and injury from Washington, New Albany, Bloomfield, and Indianapolis.

Illinois. W. F. Flint (September 22): The harlequin bug continues to be received from various species of Cruciferae.

Kentucky. M. L. Didlake (August 30): The harlequin bug is very abundant everywhere.

W. A. Price (September 26): The harlequin bug continues to be prevalent generally over the State.

Kansas. H. R. Bryson (September 15): One report from Ford records the harlequin bug as abundant in gardens.

Alabama. J. M. Robinson (August): The harlequin bug is from moderately to very abundant in Leeds and Tuscaloosa. (September 22): The harlequin bug is moderately abundant in Tuscaloosa and Straven on collards.

Mississippi. C. Lyle (September 23): Severe injury to turnips and mustard was reported from Verona, Lee County, on September 1, and from Jackson, Hinds County, on September 9.

New Mexico. J. R. Eyer (September 1): The harlequin bug is giving us considerable trouble this season.

CABBAGE WEBWORM (Hellula undalis Fab.)

Virginia. H. G. Walker and L. D. Anderson (September 27): The cabbage webworm is causing considerable damage in some fields of cruciferous crops in the Norfolk area.

North Carolina. W. A. Thomas (September 19): The cabbage webworms are already seriously injuring various cruciferous crops in the vicinity of Chadbourn. Summer collards are being injured by the larvae boring in the bud and leaf petioles. Turnips and other fall crops of this type are being destroyed over much of the Chadbourn area.

South Carolina. A. Lutken (September 24): Cabbage webworms have been abundant on collards, turnips, and cabbage.

Mississippi. C. Lyle (September 23): Specimens were received from Jackson, Hinds County, on September 12, with a report that turnips and mustard in a home garden had been practically ruined by them.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Virginia. H. G. Walker and L. D. Anderson (September 27): The diamond-back moth population is building up rapidly at Norfolk and will undoubtedly cause considerable damage unless the parasites or the weather conditions check its rapid multiplication.

CABBAGE LOOPER (Autographa brassicae Riley)

Virginia. H. G. Walker and L. D. Anderson (September 27): The cabbage looper, and the imported cabbage worm (Ascia rapae L.) have caused considerable damage in some early cabbage fields at Norfolk, but in general they have not been very injurious during the past month.

Illinois. L. H. Shropshire (September 19): Cabbage loopers are abundant and causing considerable damage in northern Illinois.

Louisiana. C. E. Smith and P. K. Harrison (September 13): Summer crucifer crop were severely injured in part by the cabbage looper in the vicinity of Baton Rouge during August and early September.

CROSS-STRIPED CABBAGE WORM (Evergestis rimosalis Guen.)

Louisiana. C. E. Smith and P. K. Harrison (September 13): The cross-striped cabbage worm was one of the major species which severely damaged summer crucifers in the vicinity of Baton Rouge during August and early September.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Indiana. J. J. Davis (September 27): Squash bugs were reported abundant early in September from Jeffersonville, Lafayette, and Lowell.

Illinois. L. H. Shropshire (September 19): Squash bugs are abundant but causing little injury. Adults are now seeking winter quarters in northern Illinois.

Kentucky. M. L. Didlake (August 30): Squash bugs are very abundant.

Wisconsin. C. L. Fluke (September 26): The squash bug is moderately abundant in Vernon, LaCrosse, Grant, Jefferson, and Sauk Counties, on squash.

New Mexico. J. R. Eyer (September 1): Squash bugs are giving us considerable trouble this season.

PICKLE WORMS (Diaphania spp.)

North Carolina. W. A. Thomas (September 17): The pickle worm (D. nitidalis Stoll) and the melon worm (D. hyalinata L.) have developed a rather heavy infestation within the past few days and are very noticeable on late summer squash at Chadbourn. The young fruit is being entered by the pickle worm and some of the plants are almost defoliated by the melon worm.

SQUASH BORER (Melittia satyriniformis Hbn.)

Illinois. L. H. Shropshire (September 19): Injury by the squash vine borer exceeds that done by the squash bug. Most of the borers have left the plants and may be found in cocoons at the base.

SWEETPOTATO

SWEETPOTATO WHITEFLY (Bemisia inconspicua Quaint.)

Florida. E. W. Berger and G. B. Merrill (September 15): The sweetpotato whitefly is moderately to very abundant in Alachua and several adjoining counties, and probably in many sections of the State.

TORTOISE BEETLES (Cassidinae)

Mississippi. C. Lyle and assistants (September): There have been reports of serious injury to sweetpotato by tortoise beetles in the north-central part of the State. (Abstract, G.M.)

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Idaho. R. W. Haegeler (September 21): The desert populations in southern Idaho are somewhat higher than in 1931, but are still much lower than in the years 1927 to 1930, inclusive. The spring and summer populations were sufficiently low to result in very little curly-top damage to beets. The tomato crop in southwestern Idaho is free from blight owing to scarcity of beet leafhoppers.

Utah. G. F. Knowlton (September 23): The beet leafhopper is doing little damage in most localities in northern Utah.

FOREST AND SHADE-TREE INSECTS

RUSTY TUSSOCK MOTH (Notolophus antiqua L.)

Alaska. Geo. M. Pilcher (July 25): There are millions of caterpillars spreading out fan-wise in a district not more than 2 by 3 miles (about 8 miles back in the hills from the Yukon River at Marshall), the center being within one-half mile of Fortuna Ledge (Post Office). They have invaded my garden at this place, but have done no real damage. There may be other localities infested, but I do not know of them. I first discovered the caterpillars in a blueberry patch in the Wilson Creek Valley, July 10. I found places untouched by them and other spots where they were so thick that I counted from 10 to 20 on a clump of bushes that I could cover with my hat. I found no bush that had lost half its leaves. On July 24 I went over the same section and many berry bushes were completely devoid of leaves, and cocoons were hanging on bare twigs and stems everywhere. Willow, particularly pussy willow, is being stripped. In my garden the caterpillars have slightly infested radishes and turnips, and severely infested rhubarb grown just outside the garden.

PALE TUSSOCK MOTH (Halisidota tessellaris S. & A.)

Massachusetts, Connecticut, and New Hampshire. J. V. Schaffner, jr. (September 24): In various localities through southern New Hampshire, eastern Massachusetts and northern Connecticut we have found larvae very common in oak and mixed woodlands and on shade trees.

FALL WEBWORM (Hyphantria cunea Drury)

North Carolina. W. A. Thomas (September 15): This insect is very abundant at Chadbourn, causing the defoliation of pecan, walnut, and various forest trees. Their unsightly nests are conspicuous in the forests along the highway.

South Carolina. A. Lutken (September 24): The fall webworm was abundant on persimmons in Beaufort County the last of August.

Georgia. J. B. Gill (September 25): The fall webworm has shown up in considerable numbers in pecan orchards in scattered localities in the southern portion of Georgia.

Ohio. T. H. Parks (September 20): Injury and defoliation have been very severe in Columbus. Some shade trees have been almost defoliated and the worms are now attacking shrubs and hedges.

Kentucky. W. A. Price (September 26): The fall webworm has caused considerable damage to shade trees in Louisville, Lexington, and Shelbyville.

Mississippi. C. Lyle and assistants (September): The fall webworm is very abundant on pecan, persimmon, sweet gum, and other trees in Hinds, Madison, Claiborne, and Rankin Counties. The worms were first noticed about the latter part of August.

A FALL WEBWORM (Hyphantria textor Harr.)

New England and New York. E. P. Felt (September 23): The fall webworm H. textor has been very abundant here and there upon forest trees in southwestern New England and southeastern New York.

New Hampshire. L. C. Glover (September 22): The fall webworm is very abundant. It has been noted on several species of trees, especially apple.

Vermont. H. L. Bailey (September 27): Fall webworms are moderately abundant, less so than 1931.

Connecticut. M. P. Zappe (September): Appears to be very abundant--probably more so than average.

Rhode Island. A. E. Stone (September 28): The fall webworm is again abundant, although in some places perhaps not quite so numerous as last year.

Pennsylvania. J. N. Knull (September 14): The fall webworm H. textor is very abundant in the upper part of Dauphin County along the Susquehanna River. Many trees have been entirely defoliated.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Maryland. E. N. Cory and staff (September 22): The walnut caterpillar is present generally on walnut and pecan over Maryland.

Georgia. J. B. Gill (September 25): There has been a rather light infestation in pecan orchards of Georgia during the present season.

Ohio. T. H. Parks (September 21): Walnut datanas are bad and far above average. Many walnut trees have been partially defoliated.

Louisiana. C. E. Smith and C. O. Hopkins (September 9): A number of pecan trees of considerable size which had recently been defoliated were observed in Pointe Coupee, St. Landry, and St. Martin Parishes.

Mississippi. C. Lyle and assistants (September): Serious damage to pecan trees has been noted in Adams and Wilkinson Counties, where about 75 per cent of the trees are completely defoliated. Slight damage to pecans was noted in Pike County.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Vermont. H. L. Bailey (September 27): Yellow-necked apple tree caterpillar is abundant in the western part of the State. Noted a row of small elms in Shelburne practically defoliated.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Iowa. C. N. Ainslie (September 12): An unusual outbreak of two species, M. americana and M. disstria Hbn., is appearing on various trees in the area near Sioux City, apple, elm, and boxelder being very generally attacked. The pests are sporadic, some localities showing heavy infestation, others but little. Little interest is being shown in the easily applied control measures.

WALKINGSTICK (Diapheromera femorata Say)

Maine. H. B. Peirson (August 26): Two walkingsticks were received from Agamenticus, August 26.

Pennsylvania. J. N. Knull (September 18): An infestation of walkingsticks was observed in Bear Valley, west of Upper Strasburg, Franklin County. Many of the forest trees, especially the lindens, were severely defoliated.

PIGEON TREMEX (Tremex columba L.)

Rhode Island. A. E. Stene (September 28): An insect rarely reported in previous years, the pigeon tremex has been sent in from several sections of the State this year, indicating that it is probably unusually abundant.

BIRCH

BIRCH SKELETONIZER (Bucculatrix canadensisella Chamb.)

Maine and New Hampshire. J. V. Schaffner, jr. (September 24): Severe infestations have been reported in southern parts of New Hampshire and Maine.

Maine. H. B. Peirson (August 26): Birch throughout the northern half of the State is severely attacked.

Pennsylvania. J. N. Knull (September 14): The birch leaf skeletonizer is very abundant in the northeastern part of Pennsylvania. In many places the foliage of the gray birches looks as if it had been killed by fire.

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fallen)

Maine. H. B. Peirson (August 26): There is a heavy outbreak throughout the State of the birch sawfly leafminer. It is more severe than last year.

Vermont. H. L. Bailey (September 27): The birch leaf miner is very abundant in northern sections of the State.

BIRCH LEAF MINER (Fenusa pumila Klug)

Maine. H. B. Peirson (August 26): The birch leaf miner is attacking black birch (Betula lenta) in Augusta.

BOXELDER

BOXELDER BUG (Lentocoris trivittatus Say)

Indiana. J. J. Davis (September 27): The boxelder bug has been unusually abundant in the northern half of Indiana since September 9. In most cases they were reported as abundant on boxelder but in some cases they were reported primarily as annoying pests.

Wisconsin. E. L. Chambers (September 27): Boxelder bugs have again appeared in large numbers throughout the State and are resulting in many inquiries concerning the possibility of their doing injury in homes or similar places where they are found crawling about.

Minnesota. A. G. Ruggles (September 26): Boxelder bugs are more numerous even than they were in 1931.

CATALPA

CATALPA SPHINX (Ceratonia catalpae Bdv.)

Kentucky. M. L. Didlake (August 30): The catalpa sphinx is defoliating trees in Fayette, Franklin, Shelby, and Jefferson Counties.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Maine. H. B. Peirson (August): The elm leaf beetle is reported from the southern third of the State. This insect appears to be on the increase.

New Hampshire. L. C. Glover (September 22): The second generation of the elm leaf beetle has done a moderate amount of damage to elms in the County of Strafford around Durham, Dover, Strafford, Exeter, and Portsmouth. A little feeding was noted north of Rochester.

Connecticut and Rhode Island. E. P. Felt (September 23): Eggs and young larvae were found in mid-August at Cranston, R. I., and Mystic, Conn., indicating a probable second brood. Reports of serious injury in many of the older towns in Connecticut, notably Guilford, Branford, Madison, Lyme, and Saybrook have been received. There has been very general defoliation in many areas in southern Westchester County.

California. A. C. Browne (September 3): When in 1923 the elm leaf beetle was first found in California, some concern was felt that in its new environment it might find some crop of economic importance that would prove to its likin

Later observations seemed in a measure to confirm the early suspicions when the beetle was found feeding on the foliage of almonds near Tulare. Subsequent observations have not revealed any special tendency to feed on this host, which would seem to indicate that the choice had been prompted through lack of other suitable material. On August 15, 1932, what seemed to be elm leaf beetles, was reported attacking a planting of Kentucky Wonder beans at Dutch Flat. Investigation confirmed the suspicions when numerous adults were taken from the completely riddled leaves of the bean plants. Some large elms standing across the road and about 400 feet away had been defoliated by the beetles, which had then selected the near-by beans.

ELM SPANWORM (Ennomos subsignarius Hbn.)

Pennsylvania. J. N. Knull (September 14): During the season just passed there have been heavy infestations in the northeastern part of Pennsylvania. In many places the foliage of the forest trees has been severely injured.

ELM LACEBUG (Corythucha ulmi O. & D.)

New York. E. P. Felt (September 23): The elm lacebug was reported as injurious to elms at Amenia, the insect having been prevalent for the past four or five years.

FIR

SPRUCE SAWFLY (Neodiprion abietis Harr.)

Maine. H. B. Peirson (September 6): Some fir was heavily infested with the spruce sawfly in Martin, while some spruce in the same stand was not affected. This seems to be the usual case in Maine even though the name indicates otherwise.

AN APHID (Dreyfusia picea Ratz.)

Maine. H. B. Peirson (August 22): Fir on Monhegan Island, situated about 15 miles off the mainland, is heavily infested with the fir bark louse.

GUM

SOUR GUM CASE BEARER (Antispila nyssaefoliella Cten.)

Pennsylvania. J. N. Knull (September 15): The sour gum case-cutter is abundant in different parts of Pennsylvania.

HICKORY

TWIG GIRDLER (Oncideres cingulatus Say)

Pennsylvania. J. N. Knull (September 18): The twig-girdler has been very abundant in Franklin County this fall.

HICKORY AGRILUS (Agrilus otiosus Say)

Connecticut. E. P. Felt (September 23): The hickory agrilus is somewhat prevalent upon hickories at Stamford, causing characteristic dying tips bearing a few leaves.

LOCUST

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Pennsylvania. J. N. Knull (September 1): The locust leaf miner is abundant in parts of Fayette and Westmoreland Counties.

MAPLE

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

Kansas. H. R. Bryson (September 26): This insect has caused considerable defoliation of maple trees in certain localities. The second generation is causing defoliation of a grove near Denton.

WOOLLY MAPLE LEAF SCALE (Phenacoccus acericola King)

Pennsylvania. J. N. Knull (September 22): This insect was found infesting sugar maple in Philadelphia.

OAK

ORANGE-STRIPED OAK WORM (Anisota senatoria S. & A.)

Vermont. H. L. Bailey (September 27): The yellow-striped oak caterpillar is very abundant in Charlotte and vicinity.

Massachusetts, Rhode Island, and Connecticut. J. V. Schaffner, jr. (September 24): This species was reported as abundant on oaks near Dennis, Mass.; Groton, Preston and Ledyard, Conn., and Westerly, R. I. The infestation at Ledyard was reported to extend over at least 1 square mile.

Pennsylvania. J. N. Knull (September 15): The yellow-striped oak caterpillar has been abundant on various species of oaks in Franklin County.

Virginia. C. R. Willey (September 26): This caterpillar seems more abundant in the forests this fall than usual.

CALIFORNIA OAK MOTH (Phryganidia californica Pack.)

California. E. O. Essig (September 1): In Alameda and Contra Costa Counties live oaks are completely defoliated in certain areas. The second brood occurred during the month of August. (September 22): The insect continues to be very destructive to oaks in the San Francisco Bay Region.

OAK TWIG PRUNER (Hypermallus villosus Fab.)

Massachusetts. E. P. Felt (September 23): The oak twig pruner is reported as very abundant in Martha's Vineyard.

Pennsylvania. J. N. Knull (September 18): The oak twig pruner has been very abundant in wooded areas in Franklin County this year.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Delaware. L. A. Stearns (August 26): The European pine shoot moth is present in Harrington on yellow pine.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

Southeastern United States. R. A. St. George (September 26): During September additional outbreaks of the southern pine beetle have reached this office. Upon an investigation a serious infestation was found at Farmington (10 miles west of Winston-Salem), N. C. Several acres of fine virgin shortleaf pine timber were being killed. The trees would cut about 30,000 board feet per acre, a very high yield for this locality. The attack started about July 1 and the brood which emerged continued to enlarge the infested area. About 200 newly infested trees were found when the tract was examined September 1. Outbreaks of this beetle during the season 1932 have been reported from the following States: Virginia, North Carolina, South Carolina, Georgia, Florida, Mississippi, and Arkansas. In general the beetle has been more active in the Piedmont and Coastal Plain regions than has been the case for several years. The previous outbreaks were confined more to the mountainous and, to a lesser extent, to the Piedmont regions. The only activity this year noted in the mountainous area was within a 25 mile radius of Asheville, N. C. A recent reconnaissance study of the Smoky Mountain National Park revealed no indications of activity this season, quite in contrast to the situation in 1931.

Kentucky. W. A. Price (September 26): The southern pine beetle is injuring pines at Louisville and Lexington.

A CONE BEETLE (Conophthorus coniperda Schwarz)

Connecticut. E. P. Felt (September 23): The pine cone beetle is reported abundant on white pine at Danbury.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Maine. H. B. Peirson (September 6): The red-headed pine sawfly is attacking red pine at Portland.

PINE BARK APHID (Pineus strobi Htg.)

Connecticut. M. P. Zappe (September): Chermes pinicorticis Fitch appears to be very much less abundant than it has been for several years. Nursery trees are practically clean, and the insect has been found on only a few occasions where normally it is quite abundant where white pine is grown.

POPLAR

COTTONWOOD LEAF BEETLE (Chrysomela scripta Fab.)

Pennsylvania. G. L. Varney (August 22): Samples of a leaf-eating beetle which is rapidly assuming epidemic stages on the young aspen or Populus tremuloide stands on the Allegheny National Forest at Marienville.

WILLOW CURCULIO (Cryptorhynchus lapathi L.)

Minnesota. A. G. Ruggles (September 26): Abundant on poplar near Savage; reported previously from Rochester.

SPRUCE

EASTERN SPRUCE BEETLE (Dendroctonus piceanerd Hopk.)

Maine. H. B. Peirson (September 6): An outbreak is occurring in Township 1, Range 7, and considerable virgin spruce is being destroyed.

RED TURPENTINE BEETLE (Entomoscelis adonidis Pal.)

Maryland. E. N. Cory (September 22): The red turpentine beetle is present in Easton on silver spruce.

SPRUCE BUDWORM (Harmologa fumiferana Clem.)

Wisconsin. E. L. Chambers (September 27): The spruce budworm continued its ravages in several northern Wisconsin counties, defoliating large numbers of pines and spruce trees. One entire section of forest trees was practically completely defoliated in Bayfield County.

SYCAMORE

SYCAMORE LACEBUG (Corythucha ciliata Say)

New England and New York. E. P. Felt. (September 23): The sycamore lacebug has been unusually abundant and injurious in late summer throughout much of south western New England and southeastern New York, the foliage on sycamore sprout being especially favored and somewhat generally discolored.

WILLOWS

ALDER FLEA BEETLE (Haltica binarginata Say)

Michigan. E. I. McDaniel (August 30): The alder flea beetle is doing serious damage to willows along the shores of Lake Huron, in the vicinity of Bay City. In some places the beetles have completely stripped the foliage from these trees for miles along the lake shore. The second brood have just emerged and are congregating on the new foliage in swarms.

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

Virginia. H. G. Walker and L. D. Anderson (September 27): The Fuller's rose weevil is more abundant than usual and has been reported as injuring a wide variety of plants at Norfolk.

North Carolina. W. A. Thomas (September 12): This insect is now feeding rather abundantly on the foliage of magnolia bay in the wooded areas near the laboratory at Chadbourn. No specimens have been found feeding on cultivated crops this season.

THREE-LINED POTATO BEETLE (Lema trilineata Oliv.)

Pennsylvania. J. N. Knull (September 30): This insect has been destructive to patches of Japanese lantern plants at Mont Alto.

ACHEMON SPHINX (Pholus achemon Drury)

Mississippi. C. Lyle (September 23): Larvae collected from ornamental vines were received from Durant, Yazoo City, and Meridian, during the past few weeks. No appreciable damage was reported.

A MOTH BORER (Heliothis sp.)

North Dakota. J. A. Munro (September 20): Borers, determined as Heliothis sp. by C. Heinrich, were reported to be prevalent in ground cherries in a garden at Brampton, Sargent County.

A WASP (Scolia dubia Say)

Pennsylvania. E. P. Felt (September 23): A parasitic insect, S. dubia, was very abundant on a lawn infested by grubs of both the Japanese beetle (Popillia japonica Newm.) and the green June beetle (Cotinis nitida L.).

CHINESE MANTIS (Tenodera sinensis Sauss.)

Connecticut. E. P. Felt (September 23): The Chinese mantid has been somewhat abundant in Stamford and vicinity, a number of specimens having been taken upon the business streets.

GARDEN CENTIPEDE (Scutigereilla immaculata Newp.)

California. A. E. Michelbacher (September 19): The garden centipede has done considerable damage to sweetpeas and snapdragons at Burlingame. The damage was in greenhouses in ground benches. Also, it is believed that the centipede may be doing severe damage to gardenias in raised benches. An examination of the soil in several beds where the plants were doing poorly showed a fair concentration of the pest.

ASTER APHID (Aphis middletoni Thos.)

Nebraska. M. H. Swenk (September 20): The aster aphid was the cause of complaints of damage to asters in Madison County that were received during the first week in September.

BARBERRY

A PYRALID (Omphalocera dentosa Grote)

Connecticut. R. B. Friend (August 30): A number of Japanese barberry bushes in Branford were severely defoliated.

COTONEASTER

LEAF CRUMPLER (Mineola indiginella Zell.)

North Dakota. J. A. Munro (August 18): I am sending a branch of cotoneaster from Fargo that is infested with worms which are evidently skeletonizers. They have caused considerable damage of late to several of these hedges in Fargo. (Det. by C. Heinrich.)

CREPE MYRTLE

CREPE MYRTLE APHID (Myzocallis kahawaluokalani Kirk.)

Mississippi. C. Lyle and assistants (September): Crepe myrtle in the vicinity of Perkinston is very heavily infested.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Virginia. H. G. Walker and L. D. Anderson (September 27): The euonymus scale has been very injurious to euonymus plants in various parts of Tidewater.

Mississippi. C. Lyle and assistants (September): The euonymus scale has been observed in many cases causing the death of shrubs in several instances throughout this district. (Works in Yalobusha, Grenada, and Montgomery Counties.)

GLADIOLI

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

Maine. H. B. Peirson (September 8): The gladiolus thrips is very abundant in Bar Harbor.

Rhode Island. A. E. Stene (September 28): Gladiolus growers are having more trouble than ever with the thrips.

Illinois. W. P. Flint (September 22): The gladiolus thrips has been found at Arlington Heights. This is the first record of this insect in the State.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Maryland. E. N. Cory (September 22): The iris borer is present in Baltimore on iris bulbs.

MAGNOLIA

MAGNOLIA SCALE (Neolecanium cornuparvum Thro)

New York. E. P. Felt (September 23): The magnolia scale was somewhat abundant and injurious to magnolias in Rochester.

PHLOX

PHLOX BUG (Lopidea media Say)

Indiana. J. J. Davis (September 27): The phlox bug was destructive to hardy phlox at Columbus September 8.

ROSES

SUGARCANE BEETLE (Eutheola rugiceps Lec.)

Mississippi. C. Lyle (September 23): Damage to several thousand rose plants in a greenhouse at Columbus by adults was found in early September. The damage had apparently been done early in August. Many of the plants had been gnawed almost in two just below the ground. It is supposed that the beetles came into the greenhouse in the egg stage when the benches were filled with soil from a near-by pasture. By the time the damage was discovered most of the beetles had escaped from the greenhouse.

TAXUS

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Massachusetts and New York. E. P. Felt (September 23): The black vine weevil has been injurious in Milton, Mass., and has caused considerable injury to Taxus in Chappaqua, N. Y.

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

EYE GNATS (Hippelates spp.)

Mississippi. R. P. Colmer (September 19): Eye gnats are very numerous in George and Greene Counties.

ROVE BEETLES (Staphylinidae)

Alabama. K. L. Cockerham (September 21): Rove beetles were proving to be a very great nuisance in summer cottages on the seashore near Foley. Great hordes

of them appeared suddenly, came through the screens, and flew to the lights inside of the summer cottages, where they fell upon tables, beds, etc., in great numbers. Residents complained that they were unable to eat with electric lights on since these beetles fell down in the food.

BLACK WIDOW (Lathrodectes mactans Fab.)

Maryland. P. Knight (September 30): We have collected more hour glass spiders in and near College Park. On September 9, I collected one male and one female in my back yard, and today we collected 17 females and two males in about one hour's time. Every trip we have taken for the purpose of finding these animals has been successful, though most of the collections have been females.

SPOTTED-LEGGED MOSQUITO (Psorophora columbiae Dyar & Knab)

Florida. T. E. McNeel (September 21): During the second week in September the worst infestation of mosquitoes ever recorded in this State took place. In the Everglades section of Dade County, above Hialeah, unusual numbers of mosquitoes were observed for the first time on September 4 following a northwest wind which blew for several days. By the 5th mosquitoes increased to unprecedented numbers, and by evening of that day they sounded like swarming bees. During the night, livestock could be heard running and fighting and on the morning of September 6 dead animals were found on farms all over this section. The recorded mortality was 80 head of cattle, 3 horses, 1 mule, 67 hogs, 20 chickens, and 2 dogs. Post mortems showed no mosquitoes in the respiratory apparatus and indicated that the animals died from loss of blood and nervous exhaustion. The chief of the Bureau of Dairy Industry of Miami reported that the milk supply from the Hialeah district was reduced 1,000 gallons per day from the period September 6 to 10 which covered and immediately followed the mosquito outbreak.

HOUSEHOLD AND STORED-PRODUCT INSECTS

TERMITES (Reticulitermes spp.)

United States. T. E. Snyder (August): During the month of August 129 cases of termite damage to buildings were reported to the Bureau of Entomology. The following list gives the number of cases reported from each section: New England, 4; Middle Atlantic, 40; South Atlantic, 29; East Central, 12; West Central, 9; Lower Mississippi, 29; and Pacific Coast, 5.

ANTS (Formicidae)

Louisiana. C. E. Smith and P. K. Harrison (September 8): The fire ant (Solenopsis geminata Fab.) destroyed stands of cauliflower and cabbage seedlings in two fields observed in the vicinity of Baton Rouge, by girdling the plants near the surface of the ground.

INSECT PEST SURVEY BULLETIN

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THE MORE IMPORTANT RECORDS FOR OCTOBER, 1932

In the Gulf region Schistocerca americana Drury appeared in very unusual numbers.

White grub injury in parts of New England, the Middle Atlantic, and the Central States continued well into October. Serious damage to potatoes has been reported from Vermont, and to rye and wheat in parts of Nebraska.

In southern Illinois, parts of Iowa, Missouri, and Oklahoma, the chinch bug is entering hibernation in large numbers, indicating possible trouble from this pest next year.

The sorghum webworm was reported from scattered localities in the Gulf region and was found damaging stored corn for the first time in many years in Nebraska.

The banded cucumber beetle is decidedly on the increase in the eastern part of its range in South Carolina and Florida, where it is reported doing considerable damage to fall truck.

The Mexican bean beetle has spread westward in Illinois so that it now occupies the central part of the State from 30 to 50 miles from the Indiana State line, and is well established over the southern quarter of Michigan.

The harlequin bug made its first appearance in southeastern Iowa in October. It is quite generally reported as more or less troublesome along the northern border of its normal range.

A few specimens of living pink bollworms were found at three points in northern Florida near the southern part of the main cotton belt and appropriate quarantine restrictions have been issued by the Department. This pest is reported as more abundant than ever before in the known infested area of the Big Bend of Texas.

Two additional reports of heavy outbreaks of walkingsticks defoliating small forest areas were received during October, one from Pennsylvania and the other from Ohio.

An unprecedented outbreak of the screw worm was reported during the month from the Yazoo-Mississippi Delta in Mississippi, occasioning some loss to live-stock.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

South Carolina. W. J. Reid, jr. (October 15): Melanoplus femur-rubrum DeG. has done severe damage to young cabbage and turnip plants on experimental insect control plots at Charleston. The injury is most severe on areas adjoining hay fields and along ditch banks. The insects are more abundant than usual this fall.

Michigan. R. H. Pettit (October 22): Grasshoppers were numerous in the Upper Peninsula and in the upper third of the Lower Peninsula. The common one in the Upper Peninsula was M. bivittatus Say, while the common ones in the Lower Peninsula were Camula pellucida Scudd. and M. mexicanus Sauss. They were controlled where treated but there is so much wild land in both of these places that a good many escaped.

Mississippi and Alabama. K. L. Cockerham (October 18): On this date a great horde of Schistocerca americana Drury were found flying across a suburban farm at Biloxi. It was the largest flight that I have seen in this section. They were flying high through the tops of the trees and going in a general northerly direction with the prevailing wind. No evidence of feeding damage was noticed and when the insect alighted on the trees, weeds, grass, etc., they did not appear to feed but only to remain until a gust of wind or some other disturbance caused them to take to the air again. The flight could not be traced very far from this small farm; and the people had not noticed any grasshopper nymphs during the early part of the fall or summer. Messrs. O. T. Deen and F. A. Wright report this insect very plentiful in Hancock County, Miss. Unverified reports state that in some sections it was necessary to raise car windows to keep the insects from flying into the cars as they were moving along the road. On October 20 some of the same species were noted in the extreme southern end of Mobile County, Alabama. The distance from the western Mississippi observation to the Alabama observation was at least 75 miles. There was evidently a considerable distribution of these insects and a considerable migration.

Wyoming. C. L. Corkins (October 12): Although an egg survey in Park County has shown little evidence of a heavy infestation, the eggs have been laid generally along roadsides, in alfalfa and clover fields, and on ditch lands so such a survey is misleading. The evidence of late fall abundance and very favorable weather conditions for the past two months indicates a general and severe infestation on the Powell flats next year. Dipterous parasites are fairly abundant, but have not greatly checked the hoppers.

Colorado. G. M. List (October 19): A recent survey has shown that eggs are much less abundant in the eastern half of the State than they have been for two years. It seems that we have passed the peak of the outbreak and that trouble can be expected only in localities in the western-central parts of the State. Eggs are going to be somewhat more abundant in some of the western slope counties than they have been and it appears that the population is somewhat on the increase, but it is hardly thought that a general outbreak will occur next year.

Louisiana. W. E. Hinds and C. E. Smith (October 27): Adults of S. americana are very abundant around sugarcane.

WHITE GRUBS (Phyllophaga spp.)

Vermont. H. L. Bailey (October 24): White grubs continued to damage the potato crop in the western part of Vermont. In some cases growers whose fields were certified for seed have found it impracticable to attempt grading the tubers for seed and have sold them for table stock in bulk.

Maryland. E. N. Cory (October 20): White grubs are injuring coniferous nursery stock in Baltimore County.

Virginia. W. J. Schoene (October 10): During the season reports have been received of serious injury to sod and to cultivated crops in Loudoun, Shenandoah and Tazewell Counties.

Ohio. T. H. Parks (October 22): White grubs are very abundant.

Kentucky. W. A. Price (October 26): White grubs during the early part of the month were reported doing serious damage to lawns and strawberry plants at Paducah, Bowling Green, Berea, Vanceburg, and Lexington.

Michigan. R. H. Pettit (October 22): White grubs were plentiful, although most of them belonged to Brood A, which was due to fly this year. Therefore, we are expecting a very serious attack next year over the lower half of the State.

Nebraska. M. H. Swenk (October 20): White grubs were found responsible for an extensive amount of injury to a field of early-sown rye in Douglas County during the last week in September, and to early-sown wheat in Kearney County during the first week in October.

Kansas. H. R. Bryson (October 20): White grubs were observed injuring newly started wheat plants in plots at Manhattan. Diggings to determine the population indicate that considerable damage can be expected next year. From 5 to 25 grubs have been taken in each hole one foot square, dug in grassy land in cultivated areas.

FIELD CRICKET (Gryllus assimilis Fab.)

California. F. H. Wymore (October 6): The field cricket has appeared in great numbers at various points in the Sacramento Valley this summer. In the first part of July the adults were quite numerous about Williams, and on August 25 they were reported entering clothing stores in Sacramento, doing considerable damage by chewing holes in blankets and other cotton goods. At the present date the nymphs of various sizes (almost full-grown ones predominating) are migrating in great numbers from the fields into irrigated districts and about the homes, where they are causing considerable annoyance.

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey. Monthly Letter of Bureau of Entomology, U.S.D.A. No. 220 (August): The Japanese beetle has added several food plants in the Pine Barrens to its list. In addition to feeding upon the bracken and cinnamon fern, it now defoliates shining sumac (Rhus copallina) and the tough-leaved scrub oak (Quercus ilicifolia). Numerous other plants characteristic of the Pine Barrens also fed upon. Grassy areas and margins furnish proper conditions for the development of larvae throughout the pine region. It is believed that

northern bayberry, Myrica carolinensis, may be attacked, although the conclusion is based on damage rather than on actual observation of feeding. In the June Monthly Letter it was noted that grubs were unusually numerous around dwarf dandelion (Adopogon carolinianum). As there was some question as to the correctness of this identification, specimens were turned over to the Academy of Natural Sciences in Philadelphia. They report that it is Lactuca stolonifera, a plant native to Japan.

CEREAL AND FORAGE-CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Illinois. W. P. Flint (October 21): The fall brood came out at about the normal dates. The egg-laying period extended a little later than usual, and a very heavy fall brood of fly emerged. Eggs were extremely abundant on volunteer wheat, 159 eggs having been counted on a single wheat leaf.

J. H. Bigger (October 17): The estimate is that 90 per cent of farmers in western Illinois waited until or after the recommended date of seeding this season. Examinations in Hancock and Cass Counties indicate that wheat seeded before the advised dates now have 30 to 40 per cent of the plants with eggs, while wheat seeded on or a few days after the time recommended has less than 5 per cent of plants with eggs. Wheat has been slow in coming up, owing to dry weather.

Michigan. R. H. Pettit (October 22): There was very little damage this year. The fly is present almost everywhere and the growers have been warned not to take liberties with their seeding dates this season.

Missouri. L. Haseman (October 21): The percentage of parasitism of flaxseeds is very high in central Missouri. The situation is more favorable than last year.

Nebraska. M. H. Swenk (September 20 to October 20): Emergence of the main fall brood was normal in northeastern and southeastern Nebraska, and along the Missouri River counties. In twenty infested counties in south-central Nebraska, however, emergence was more or less delayed, and safe dates of sowing could not be announced before October. In this most delayed area many farmers sowed their wheat before the safe date had arrived, and as a result considerable infestation is expected in this district.

WHEAT JOINT WORM (Harmolita tritici Fitch)

WHEAT STRAW WORM (Harmolita grandis Riley)

Utah. G. F. Knowlton (October 20): Part of the dry-farm wheat samples taken at Starr, Juab County, and at Erda, Lake Point, Lincoln, Mills, Stockton, and Tooele in Tooele County, have been found to be infested by H. tritici. This species is less generally distributed in the State than H. grandis, which was found to occur in practically all wheat-growing areas of Utah during this season.

CORN

SOUTHWESTERN CORN BORER (Diatraea grandiosella Dyar)

Texas. F. L. Thomas (August 24): A correspondent in Donley County sent a specimen with a report the corn crop is damaged 75 per cent.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Texas. F. L. Thomas (August 26): This insect reduced the corn crop by about 50 per cent on very sandy land near Cisco, Eastland County. Severe injury was also reported from Ward and Howard Counties.

CHINCH BUG (Blissus leucopterus Say)

Ohio. T. H. Parks (October 22): The chinch bug is very abundant in some corn-fields.

Illinois. W. P. Flint (October 21): The weather of the fall has been highly favorable to the development of the second brood of chinch bugs. They are now mainly in hibernating quarters and have increased in abundance since last year. An area of over one-half of the State is now known to be seriously infested.

Iowa. H. E. Jaques (October 25): Chinch bugs are showing rather heavy hibernation in several counties. Moderately abundant in Lyon, Union, and Henry Counties and very abundant in Monroe County.

Missouri. L. Haseman (October 21): Most of the chinch bugs have moved to winter quarters. The most severe infestation is in north-central Missouri.

Oklahoma. C. E. Sanborn (October 21): Chinch bugs have been more generally abundant than they have for several years.

C. F. Stiles (October 22 and 24): At this time Kay County is planning on an extensive clean-up campaign during the fall and winter months, and it is quite likely that several of the other counties will join them.

SOYBEAN

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Louisiana. W. E. Hinds and C. E. Smith (October 27): The velvetbean caterpillar has stripped considerable areas of soybeans around Jeanerette, but has not occurred in stripping numbers in other sections.

SORGHUM

SORGHUM WEBWORM (Celama sorghiella Riley)

Nebraska. M. H. Swenk (September 20 to October 20): A Thayer County grain dealer found that some ear corn he had hung up to dry was infested with larvae of the sorghum webworm during the second week in October. This is the third report of this sort that we have had in Nebraska in the last fifteen years.

Mississippi. C. Lyle (October 21): A slight infestation on broom corn was reported from Moorhead, Sunflower County, on September 30.

Texas. F. L. Thomas (September and October): C. sorghiella is very abundant and destructive to late maturing hegari and other grain sorghum.

CORN EAR WORM (Heliothis obsoleta Fab.)

Kansas. H. R. Bryson (October 26): One of the outstanding records of insect damage during the month was a report from Ellsworth and Chetopa, of the corn ear worm attacking the heads of late maturing sorghums. Twelve acres of late planted hegari at Chetopa had the immature seed destroyed. In both localities reports show from one to 12 larvae in practically every head.

FRUIT INSECTS

APPLE

RIBBED COCOON MAKER (Bucculatrix pomifoliella Clem.)

Nebraska. M. H. Swenk (September 20 to October 20): During the first week in October an apple orchard in Douglas County was found with many cocoons of B. pomifoliella, an uncommon pest in Nebraska.

APPLE LEAF SKELETONIZER (Psorosina hammondi Riley)

Kentucky. W. A. Price (October 26): The apple leaf skeletonizer has been responsible for considerable damage to apple trees in the Henderson area.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New Hampshire. L. C. Glover (October 22): The apple maggot is the most serious pest of apples in this State at the present time. Injury is probably more severe than the injury from all of the other apple pests put together.

New York. Geneva Experiment Station (October 22): Apple maggots are from scarce to moderately abundant in western New York. Moderately abundant in Hudson Valley and Lake Champlain districts. Slightly more abundant than last season although control is excellent where definite efforts were made to fight the pest.

Pennsylvania. T. L. Guyton (October 27): The apple maggot has appeared in destructive numbers at Harrisburg. A recent survey of Erie County showed it present in all orchards where a definite codling moth spray schedule was not followed out. It was not present in sufficient numbers in sprayed orchards to cause any loss.

APHIDS (Aphidae)

Missouri. L. Haseman (October 21): Lice on the wing were returning to apple October 10 to 20; mostly apple grain aphid (Rhopalosiphum prunifoliae Fitch). Winged and wingless lice observed on apple leaves.

SAN JOSE SCALE (Aspidiotus perniciosus Const.)

Georgia. O. I. Snapp (September 23): The San Jose scale increased rapidly during September. It is so abundant on young peach trees at Fort Valley and Perry that a summer application of oil emulsion had to be applied to hold it in check until the dormant spraying season.

Illinois. W. P. Flint (October 21): This insect is distinctly on the up grade in the central and southern Illinois orchards and has increased rapidly owing to very favorable fall weather.

Michigan. R. Hutson (October 22): The San Jose scale is very abundant.

Texas. F. L. Thomas (August 23): Samples of infested twigs and branches were received this season from Williamson and Bell Counties and they show the infestation to be more severe than usual.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia. O. I. Snapp (October 20): We are still getting some emergence in Fort Valley. Oviposition continues.

Tennessee. G. M. Bentley (October): The peach borer is moderately abundant in eastern and middle Tennessee.

Mississippi. C. Lyle and assistants (October): The peach borer is reported as very abundant in Lauderdale, De Soto, Tunica, Tate, Quitman, Panola, and Lee Counties. (Abstract, J.A.H.)

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

Georgia. O. I. Snapp (October 18): The infestation is heavy in neglected orchards in Fort Valley. The emergence of the fall brood of moths is practically completed. Larvae ranging in size from newly hatched to more than three-fourths grown can be found in the trees.

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Pennsylvania. T. L. Guyton (October 27): The oriental fruit moth is very abundant; 40 per cent infestation in Salway peaches.

Virginia. A. M. Woodside (October 25): There was a heavy emergence of the oriental fruit moth, and twig damage was heavy during the early part of the season. Some fruit was damaged by the second brood, but the insect dwindled out until, at ripening time, there was little damage.

Georgia. O. I. Snapp (October 20): The broods were overlapping during September. There was no new injury to peach twigs on account of their hardened condition. Quinces on trees in yards at Fort Valley were rather heavily infested; these and pears are the only hosts available at this season of the year.

Michigan. R. H. Pettit (October 22): The oriental fruit moth is establishing itself over the State rather more slowly than we had expected. Damage was serious in certain localities, but not as a whole.

Tennessee. G. M. Bentley (October): The oriental fruit moth is moderately abundant in middle Tennessee.

Arkansas. W. G. Amstein (October 1): Oriental fruit moths have had a good year in spite of the short peach crop; and the State experiment station orchard at Fayetteville has had very few apples that were free of both codling moth, Carpocapsa pomonella L., and oriental fruit moth.

Mississippi. C. Lyle and assistants (October): Moderate injury to peach twigs by the larvae was reported from Pike, Webster, Bolivar, George, Monroe, De Sot, Tunica, Tate, Quitman, Panola, Lee, Holmes, and Lauderdale Counties. (Abstract, J.A.H.)

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Virginia. A. M. Woodside (October 25): The plum curculio emerged from winter quarters in large numbers. The losses in unsprayed orchards were heavy, but where the spray schedule was followed they were not severe and, if there had been a normal crop, would have been considered negligible by most growers. In view of the light set of fruit, the damage was more noticeable. In Augusta County the losses were heavier than in any season since 1929. In Rockingham County the overwintering infestation was heavier than last year, and about the same as in 1930. Gathering of drops indicated that there was little damage to the fruit.

Georgia. O. I. Snapp (October 19): Adults are still on trees in peach orchards in Fort Valley. This is the latest date on which we have taken the plum curculio by jarring peach trees; and is the first time since 1921 that they have been on the trees in October.

Ohio. T. H. Parks (October 22): The plum curculio is very abundant. More injury to apples than for two years.

Arkansas. C. L. Rodgers (October): We had about 200 cars of Elberta peaches; very little curculio at harvest.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Kansas. H. R. Bryson (October 26): This insect has caused from 10 to 50 per cent loss to the apple crop in orchards in Doniphan. One orchard at Troy showed a loss of 100 per cent to Jonathan and Ben Davis varieties. In many orchards 33 per cent of the apples have been infested.

RASPBERRY

COMMON RED SPIDER (Tetranychus telarius L.)

Ohio. E. W. Mendenhall (October 13): Red spider mites are very bad in the raspberry plantations in Montgomery County in the vicinity of Dayton.

Indiana. J. J. Davis (October 24): The red spider was abundant on raspberry at Sidney, October 3.

GRAPE

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Mississippi. C. Lyle (October 21): Slight injury to grape was reported from Gunnison, Bolivar County, on September 26. Serious injury to grapes was observed at State College during September.

PECAN

TWIG GIRDLER (Oncideres cingulatus Say)

Virginia. H. G. Walker and L. D. Anderson (October 27): The twig girdler has been moderately abundant but has not been nearly so injurious as a year ago.

North Carolina. R. W. Leiby (October 21): The pecan twig girdler is not nearly so abundant and destructive as last year and two years ago.

Georgia. O. I. Snapp (October 4): Some trees have as many as 50 twigs cut off by this insect in Macon.

Mississippi. C. Lyle and assistants (October): Pecan twig girdler damage is becoming evident on pecans in Hinds and Jackson Counties. (Abstract, J.A.H.)

WALNUT

A WALNUT HUSK MAGGOT (Rhagoletis suavis Lw.)

Pennsylvania. J. N. Knull (October 16): Larvae of the walnut husk maggot are abundant in walnuts in Franklin County.

CITRUS

GREEN CITRUS APHID (Aphis spiraeicola Patch)

Mississippi. C. Lyle and assistants (October): Pittosporum trees in Laurel were observed on October 10 to be heavily infested with A. spiraeicola Patch, curling the leaves of the new growth. A. spiraeicola was more abundant than Toxoptera aurantii Boyer. (Abstract, J.A.H.)

CALIFORNIA FALSE CHINCH BUG (Nysius californicus Stal)

California. R. Bogue (September 25): One citrus orchard in the vicinity of La Habra has had a very heavy infestation of the California false chinch bug, which has done some damage to young trees and foliage.

CITRUS WHITEFLY (Dialeurodes citri Riley and How.)

Mississippi. C. Lyle and assistants (October): The citrus whitefly is very abundant in Jackson and Lauderdale Counties. (Abstract, J.A.H.)

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia. J. B. Gill (October 26): Outbreaks have occurred recently at Pelham, Americus, Bainbridge, McIntosh, and Quitman. Interested persons are being furnished Vedalia beetle material for the control of the scale.

TRUCK - CROP INSECTS

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

South Carolina. W. J. Reid, jr. (October 25): The banded cucumber beetle has been unusually abundant and quite destructive to fall plantings of snap beans, squash, and cucumbers in the Charleston commercial truck-producing area. The insect has been present in large numbers since August and was most destructive to the young plants. The beetles are still abundant, but the mature plants are not suffering so greatly from their attack.

Florida. J. R. Watson (October 26): D. balteata is causing much destruction to turnips, cabbage, mustard, cucumbers, etc., in some districts of central Florida.

E. W. Berger and G. B. Merrill (October 20): This beetle is evidently on the increase and threatens to become a severe pest. It was brought in by a grower at Starke, who advises that it is ruining his fall beans and seedling cabbage.

Alabama. K. L. Cockerham (October 12): These beetles were very numerous on fall Irish potatoes at Foley.

J. M. Robinson (October 24): The banded bean beetle is very abundant on bean and squash at Montgomery, Ramer, and Auburn.

Louisiana. W. E. Hinds and C. E. Smith (October 27): The belted cucumber beetle is moderately abundant in the Baton Rouge district, but not doing conspicuous damage.

STRAWBERRY WEEVILS (Brachyrhinus spp.)

Maine. H. B. Peirson (October 11): A heavy migration of the black vine weevil B. sulcatus Fab. into a house at Sebago was reported.

West Virginia. L. M. Peairs (October 24): B. ovatus L. reported congregating in annoying numbers in a dwelling in Grafton.

FULLER'S ROSE BEETLE (Asynonychus godmani Crotch)

Virginia. H. G. Walker and L. D. Anderson (October 27): The Fuller's rose weevil is very abundant and has been reported as injuring a wide variety of host plants.

GREEN PEACH APHID (Myzus persicae Sulz.)

Virginia. H. G. Walker and L. D. Anderson (October 27): The spinach aphid is becoming very abundant in some fields of spinach at Norfolk.

FALSE CHINCH BUG (Nysius ericae Schill.)

Virginia. H. G. Walker and L. D. Anderson (October 27): The false chinch bug has been very abundant in some early spinach and turnip fields at Norfolk.

South Carolina. A. Lutken (October 24): False chinch bugs (Syn. Nysius angustatus Uhler) are very abundant on turnips and related crops.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Florida. F. S. Chamberlin (October 29): This pest is very abundant at the present time and is especially harmful to beans.

Mississippi. C. Lyle (October 21): A correspondent at Shubuta, Clarke County, sent to this office on October 5 a number of specimens of this species and of Leptoglossus phyllopus L. with the statement that these insects were causing rather serious injury to field peas.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

New Hampshire. L. C. Glover (October 22): Forty-eight towns in the State have been found to be infested. This pest is well distributed throughout that part of the State south of Lake Winnepesaukee.

Virginia. A. M. Woodside (October 25): The Mexican bean beetle was fairly numerous and practically prevented any harvest from unsprayed beans. Those who followed recommended control practices report no trouble until late in the season.

H. G. Walker (October 27): The Mexican bean beetle is moderately to very abundant in Norfolk.

W. J. Schoene (October 10): For the past four years the Mexican bean beetle has been somewhat sporadic in its injury, but this year it occurred in sufficient numbers to cause serious injury to beans in southwestern Virginia.

West Virginia. L. M. Peairs (October 24): The Mexican bean beetle is moderately abundant at Morgantown. About the usual number to hibernate.

Georgia. C. H. Alden (October 24): The Mexican bean beetle is moderately abundant at Cornelia, where much injury to late snap beans is being reported.

Indiana. J. J. Davis (October 25): The Mexican bean beetle is very abundant; it has been reported from several localities in the southern half of the State during the month.

Illinois. W. P. Flint (October 21): The Mexican bean beetle has spread westward in Illinois until it now occurs in the central part of the State from 30 to 50 miles from the Indiana State line.

Michigan. R. H. Pettit (October 22): The Mexican bean beetle has established itself in gardens throughout the lower quarter of the State. No reports of serious injury in field beans have been received.

Tennessee. G. M. Bentley (October): The Mexican bean beetle is very abundant in White, Franklin, and Sumner Counties.

Mississippi. C. Lyle and assistants (October): Late lima beans in Prentiss and Monroe Counties are being completely defoliated. (Abstract, J.A.H.)

CABBAGE

HARLEQUIN BUG (Murgantia histrionica Hahn)

- Virginia. W. J. Schoene (October 10): The harlequin bug has been reported as being abundant in the cabbage-growing districts in southwestern Virginia and also in the truck districts around Norfolk and in many other places. While we have frequently had a few reports, this is the first year during my experience that this insect has appeared in such large numbers.
- H. G. Walker and L. D. Anderson (October 27): The harlequin bug is very abundant in some fields at Norfolk, but is not causing nearly so much damage as it was when reported on earlier in the season.
- A. M. Woodside (October 25): The harlequin bug was numerous over the entire county of Augusta, and did much damage. Most farmers in this vicinity do not recall that this pest has ever caused them any losses before.
- South Carolina. A. Lutken (October 24): The harlequin bug is very abundant on cabbage and related crops, particularly in the southern part of the State.
- Illinois. W. P. Flint (October 21): This insect continues to be received from a number of points in central Illinois. It has caused serious damage in the west central part of the State in the large trucking area in the vicinity of Quincy.
- Ohio. T. H. Parks (October 22): The harlequin bug is very abundant in southern Ohio and is doing damage at Columbus.
- Kentucky. W. A. Price (October 26): Harlequin cabbage bugs have done much damage to cabbage, kale and turnips at Lexington, Georgetown, Bowling Green, Burlington, Louisville, and Nicholasville.
- Iowa. H. E. Jaques (October 25): The harlequin bug has been taken in Des Moines County.
- Missouri. L. Haseman (October 21): Harlequin bugs have been abundant and destructive to turnips. They were still feeding October 20.
- Tennessee. G. M. Bentley (October): The harlequin bug is moderately abundant in middle Tennessee.

CABBAGE APHID (Brevicoryne brassicae L.)

- West Virginia. L. M. Peairs (October 24): Cabbage aphids are extremely numerous, but heavily parasitized. Much damage to kale is caused by reduction of the market quality due to presence of dead aphids.

CABBAGE LOOPER (Autographa brassicae Riley)

- Maryland. E. N. Cory (October 18): The cabbage looper was reported attacking brussels sprouts and broccoli at Chestertown.
- Virginia. H. G. Walker and L. D. Anderson (October 27): The cabbage looper is very abundant at Norfolk and has caused considerable damage to fall cabbage where the growers have not taken prompt measures to control it.

South Carolina. W. J. Reid, jr. (October 25): The cabbage looper is increasing in abundance on commercial cabbage plantings in the Charleston district. This species, and the cabbage webworm (Hellula undalis Fab.) have been the insects that have done most damage to winter cabbage to date.

Ohio. T. H. Parks (October 22): Cabbage loopers have been causing some injury to spinach and tomatoes in the greenhouse.

Louisiana. W. E. Hinds and C. E. Smith (October 27): Reported as being less abundant now than during September, apparently on account of fungus disease control during prolonged rainy periods in October.

CABBAGE WEBWORM (Hellula undalis Fab.)

Virginia. H. G. Walker and L. D. Anderson (October 27): The cabbage webworm is not nearly so abundant at Norfolk as it was last month.

South Carolina. W. J. Reid, jr. (October 25): The cabbage webworm made it quite difficult to obtain a stand of winter cabbage in the Charleston district during late September and October because of its destruction of the young plants.

Alabama. J. Robinson (October 24): The turnip webworm is very abundant at Calhoun on cabbage, at Auburn on turnips, and at Mt. Willing and Millstead on collards.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Virginia. H. G. Walker and L. D. Anderson (October 27): The diamond-back moth is very abundant and has been especially injurious to collards in the Norfolk area.

MELONS

MELON WORM (Diaphania hyalinata L.)

PICKLE WORM (Diaphania nitidalis Stoll)

South Carolina. W. J. Reid, jr. (October 25): The melon and pickle worms have wrought their usual destruction to squash and melon plantings in both the Charleston and Piedmont districts of South Carolina since early September. Unpoisoned plantings of these crops have now ceased entirely to produce marketable fruit. In most cases the entire plant has been killed.

Texas. F. L. Thomas (September 23): A very heavy infestation of the melon worm (D. hyalinata L.) was reported by H. B. Parks, who stated that this is the first time he had seen it at San Antonio.

SQUASH

SQUASH BORER (Melittia satyriniformis Hbn.)

Michigan. R. H. Pettit (October 22): The squash borer was present in abnormal numbers, doing a great deal of damage wherever squash were grown. This is an

unusual outbreak; in fact, it is the first time that this insect has done serious injury in 35 years.

Mississippi. R. R. Colmer (October 19): The squash vine borer was causing heavy damage to late plantings of squash at Moss Point, October 1.

CELERY

CELERY LOOPER (Autographa falcifera Kby.)

South Carolina. A. Lutken (October 24): The celery looper has been destructive to celery in Clemson College greenhouse.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Alabama. J. M. Robinson (October 24): Thrips are very abundant on onions at Auburn.

ONION MAGGOT (Hylemyia antiqua Meig.)

Nebraska. M. H. Swenk (October 20): In Nemaha County winter onion plants were found severely infested during the second week in October. This is the second report of serious damage by this pest in Nebraska that we have received during the past five years.

SWEETPOTATO

SWEETPOTATO LEAF BEETLE (Tyophorus viridicyaneus Crotch)

Tennessee. G. M. Bentley (October): Sweetpotato leaf beetles are very abundant in western Tennessee.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Virginia. H. G. Walker and L. D. Anderson (October 27): The turnip aphid has been very abundant on turnips and on young cabbage plants.

South Carolina. W. J. Reid, jr. (October 25): The turnip aphid is increasing in abundance on fall plantings of cabbage and turnip in the Charleston area. As yet, only the smaller plants are suffering from the attack to a noticeable extent.

Missouri. L. Haseman (October 21): Louse on turnips; still abundant (October 20 but very heavily infested with fungus. Has done considerable damage.

Alabama. J. M. Robinson (October 24): Plant lice are moderately abundant on turnips at Tennille, Auburn, Mt. Willing, and Millstead.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

Ohio. T. H. Parks (October 22): Flea beetle larvae have caused some injury to a field of turnips near Columbus.

Alabama. J. M. Robinson (October 24): Turnip flea beetles are moderately abundant at Birmingham.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comptana Froel.)

Ohio. E. W. Mendenhall (October 25): The strawberry leaf roller is very / numerous in strawberry plantings throughout the Miami Valley.

STRAWBERRY CROWN BORER (Tyloderma fragariae Riley)

Tennessee. G. M. Bentley (October): The strawberry crown borer is very abundant in new plantings in Summer County, where it is spreading from old patches and wild plants.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. G. T. Knowlton (October 18): Sugar beet and tomato crops suffered slight damage from beet leafhoppers and curly-top during the current season. Fall populations on the northern Utah breeding grounds are in general rather low, being more comparable with the low fall populations of 1931.

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

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana. W. E. Hinds and C. E. Smith (October 27): This insect is moderately abundant but doing much less damage generally than appeared probable from heavy hibernation survival occurring last spring.

SUGARCANE BEETLE (Euchroa rugiceps Lec.)

Louisiana. W. E. Hinds and C. E. Smith (October 27): The sugarcane beetle does not appear to have been so abundant this fall as it was one year ago. Only slight attack on the cane sprouts from very early planted cane has been reported this season.

A WEEVIL (Anacetrinus subnudus Buchanan)

Louisiana. W. E. Hinds and C. E. Smith (October 27): A. subnudus, the brown sugarcane rootstock weevil, still occurs commonly but does not seem to be so abundant as one year ago. However, our examinations this season have been much less extensive.

COTTON

PINK BOLL WORM (Pectinophora gossypiella Saund.)

Texas. News Letter, Bureau of Plant Quarantine, No. 22 (October 1): In the Big Bend area of Texas the first cotton was ginned on August 27, and trash from the first three bales was inspected with a machine. These results indicate that the infestation at this time is the heaviest in the history of the Big Bend.

Florida. Office of Information, Press Service, U. S. D. A., (October 27): Shipment of cotton and cotton products from six counties of north-central Florida is restricted, to prevent the spread of the pink bollworm. The few specimens which have been found in that area were all taken in Columbia and Alachua Counties, and the other four counties included in the regulated area represent adjoining territory in which cotton is grown that is ginned at High Springs, Lake City, and other places in these two counties. These additional counties are Baker, Bradford, Gilchrist, and Union. The quarantine restrictions do not seriously impede the movement of cotton. The insect has also been found in wild cotton along the coast of southern and western Florida, but this wild cotton is now being eradicated.

FOREST AND SHADE - TREE INSECTS

WALKINGSTICK (Diapheromera femorata Say)

Pennsylvania. J. N. Knull (October 4): A severe infestation was observed on the mountains northwest of Dillsburg. The infested area could be seen for a mile or more and resembled the results of a fire at that distance. Practically all of the forest foliage was eaten with the exception of flowering dogwood, sour gum, laurel, and sassafras.

Ohio. J. S. Houser (August): In 1931, nearly 100 acres of a portion of the Shawnee Forest belonging to the State of Ohio and located in Scioto County was almost completely defoliated by this insect. The walkingsticks were reported to have continued feeding on the fallen leaves and adults were found alive until nearly Christmas. Quantities of eggs were deposited and in the earlier part of this year young were abundant. When the tract was examined October 19, 1931, it was found that very little damage had been done this season. Adults were exceedingly rare, thus indicating the attack had almost completely subsided.

FALL WEBWORM (Hyphantria cunea Drury)

Ohio. E. W. Mendenhall (September 3): The fall webworms are very destructive to the foliage of elm trees in parks and streets in towns and cities in central Ohio. They seem to be more abundant this year than usual.

Tennessee. G. M. Bentley (October): Fall webworms are moderately abundant in western Tennessee.

Louisiana. W. E. Hinds and C. E. Smith (October 27): Fall webworms are reported as having destroyed a large proportion of pecan foliage in many areas in the State.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Indiana. J. J. Davis (October 24): The walnut caterpillar was reported abundant at Indianapolis, according to inquiry received October 10.

Tennessee. G. M. Bentley (October): The walnut caterpillar is moderately abundant in western Tennessee.

ORIENTAL MOTH (Cnidocampa flavescens Walk.)

Massachusetts. J. V. Schaffner, jr. (October 25): During August and September this pest attracted very much attention and caused considerable defoliation of fruit and shade trees in several localities of the Metropolitan District of Boston. As in past years, the most severe infestations seem to be confined to vacant lots and back yards of residential sections.

GYPSY MOTH (Porthetria dispar L.)

Pennsylvania. News Letter, Bureau of Plant Quarantine, No. 22 (October 1): To date infestation is known to exist in 8 townships, namely: Pittston, Jenkins, Plains, Bear Creek, Wilkes-Barre, Kingston, and Exeter, in Luzerne County, and Lackawanna, in Lackawanna County.

BEECH

WOOLLY BEECH APHID (Prociphilus imbricator Fitch)

Massachusetts. J. V. Schaffner, jr. (October 21): This species was reported as abundant on beech at Rochester, October 19. The infestation is on a part of the water shed of the New Bedford Waterworks.

Pennsylvania. J. N. Knull (October 4): This aphid is abundant on branches of beech trees in various parts of Pennsylvania this fall. The foliage on the infested branches has turned brown and withered.

A SKELETONIZER (Psilocorsis faginella Chamb.)

Maine. H. B. Peirson (October 10): Light outbreak of the beech leaf skeletonizer throughout central Maine.

BEECH SCALE (Cryptococcus fagi Baer.)

Maine. H. B. Peirson (October): Extensive areas of beech in Charlotte are dying as the result of attack from the beech scale. Minor outbreaks occur in the vicinity of Liberty.

BIRCH

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fall.)

Maine and Massachusetts. H. B. Peirson (October 15): The birch leaf miner is generally abundant throughout central Maine. Work of the skeletonizer has done much to hold the leaf miner in check by feeding ahead of it. Also reported from Petersham, Mass.

New England. J. V. Schaffner, jr. (October 15): Reports from and observations in eastern Massachusetts, Vermont, New Hampshire, and western Maine indicate that there has been very slight change in the intensity of infestation since 1931. From Concord and Barre, and southward the infestation is very light this year. At Moretown, Vt., it is reported as abundant. Through Ossipee, Conway, and Rumford, Me., 35 to 40 percent of gray and paper birch leaves are infested at points examined, while in locations south of these towns the infestation is much lighter. Unknown predators have removed a great many larvae from their hibernation cells.

BRONZE BIRCH BORER (Agrilus anxius Gory)

Ohio. E. W. Mendenhall (October 12): The birch trees in Dayton and vicinity are doomed on account of the bronze birch borer.

BIRCH SKELETONIZER (Bucculatrix canadensisella Chamb.)

Maine. H. B. Peirson (October 18): The birch leaf skeletonizer is very abundant in Kennebec Valley and the Rangeley Lake district. In some places hardly a birch leaf has escaped injury.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

Indiana. J. J. Davis (October 24): Boxelder bugs continued to be reported abundant, the new localities reporting included Portland, Veedersburg, and Fowler.

Ohio. T. H. Parks (October 22): Numerous complaints are reaching us about the boxelder bug in houses and on shade trees.

Illinois. W. P. Flint (October 21): The boxelder bug has been much more abundant and annoying than usual.

Michigan. R. Hutson (October 22): During the past month the boxelder bug has enjoyed its seasonal abundance. This time of year it constitutes quite a household annoyance.

Minnesota. A. G. Ruggles (October 22): Boxelder bugs are more numerous than I have ever seen them.

Iowa. H. E. Jaques (October 25): Boxelder bugs are showing up in large numbers in several parts of the State.

Missouri. L. Haseman (October 24): Boxelder bugs are very abundant over the State around boxelder trees and coming into houses.

Nebraska. M. H. Swenk (September 20 to October 20): A great many complaints have been received during October of annoyance by boxelder bugs forcing their way into houses.

Colorado. G. M. List (October 19): The usual number of inquiries are being received in regard to the boxelder bug.

Utah. G. F. Knowlton (October 18): The boxelder bug has been less annoying than last year in many parts of northern Utah. With the arrival of cold weather the bugs have become annoying household pests in localities where they are abundant.

CATALPA

CATALPA SPHINK (Ceratomia catalpae Bdv.)

Ohio. E. W. Mendenhall (September 30): Caterpillars were very numerous on catalpa trees, stripping the leaves and kept on feeding up into September. They seem to be worse on Catalpa bungei.

ELM

ELM BORER (Samerda tridentata Oliv.)

Ohio. E. W. Mendenhall (September 30): Many of the elm trees in parts of cities and towns in central Ohio are infested.

A LEAFHOPPER (Empoa ulmi L.)

Pennsylvania. E. P. Felt (October 22): The elm leafhopper, E. ulmi, was responsible for considerable spotting of elm leaves in the environs of Philadelphia.

EUROPEAN ELM SCALE (Gossyocaria spuria Mod.)

Pennsylvania. E. P. Felt (October 22): The elm bark louse, G. ulmi, was somewhat common in the Philadelphia area, the leaves being badly blackened, presumably as a result of the sooty fungus growing in the honeydew.

FIR

AN APHID (Dreyfusia picea Ratz.)

Maine. H. B. Peirson (October 8): A large area of fir is affected in the town of Brighton by the fir bark louse. The outbreak appears to be following up a river valley. Trees up to 12 inches in diameter are being killed.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Maine. H. B. Peirson (October 18): Larch case bearers are migrating from needle to branches and trunks of trees for winter in Sidney.

OAK

A LEAF MINER (Lithocolletis hamadryadella Clem.)

Connecticut and New York. E. P. Felt. (October 22): The white blotch oak leaf miner (P. hamadryadella) was somewhat common on oaks at Stamford, Conn., and at Westbury, Long Island, N. Y.

OAK FIG ROOT GALL (Dryophanta radicola Ashm.)

Pennsylvania. E. P. Felt (October 22): The oak fig root gall was received from Mont Alto, it occurring on a root. This species is recorded as living upon Quercus alba and Q. minor.

WHITE OAK CLUB GALL (Andricus clavulus O. S.)

Connecticut. E. P. Felt (October 22): The white oak club gall, A. clavulus, was reported from the Danbury area as being quite abundant upon individual trees. It is also common in the vicinity of Stamford.

PINE

PINE TUBE MOTH (Eulia pinetubana Kearf.)

Maine. H. B. Peirson (October): Larvae of the pine tube builder were feeding in tubes at Sidney, September 27. On October 14, larvae left tubes in this vicinity.

Massachusetts. J. V. Schaffner, jr. (October 21): This species is unusually common in eastern Massachusetts this fall. In one white pine stand at the Middlesex Fells Reservation the larvae were abundant on October 3.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Pennsylvania. E. P. Felt (October 22): The European pine shoot moth was reported as infesting Austrian pines in the vicinity of Philadelphia.

PITCH MASS BORER (Parharmonia pini Kellic.)

Pennsylvania. J. E. Aughanbaugh and G. S. Perry (October 8): The pitch mass borer is moderately abundant on white pine trunks at Olivers Mills, Luzerne County.

PINE LEAF MINER (Paralechia pinifoliella Chamb.)

Pennsylvania. J. N. Knull (October 8): Injury by this insect, P. pinifoliella, to several ornamental pitch pines has been reported to our office.

INTRODUCED PINE SAWFLY (Diprion simile Htg.)

Maine. H. B. Peirson (October): The imported pine sawfly was defoliating red and white pines at Bar Harbor, September 28.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Ohio. E. W. Mendenhall (October 25): Mugho pines in many cases are quite badly infested throughout central Ohio.

Minnesota. A. G. Ruggles (October 22): The pine leaf scale is abundant in spots around St. Paul and Minneapolis and going into winter with many perfect eggs under the old scales.

Iowa. H. E. Jaques (October 25): The pine leaf scale is very abundant in Henry County.

PINE CONE GALL (Rhabdophaga strobiloides Walsh)

Oregon. E. P. Felt (October 22): The pine cone gall, R. strobiloides, was received from Moro, and presumably is somewhat common in that district.

TULIP

TULIP TREE SCALE (Toumeyella liriiodendri Gncl.)

Indiana. J. J. Davis (October 24): The tulip tree scale was very abundant on the tulip tree at Peru, October 8. This is a northern record for this insect.

SPRUCE

EASTERN SPRUCE BEETLE (Dendroctonus piccaverda Hopk.)

Maine. H. B. Peirson (October 8): A small outbreak of the spruce borer beetle in Squaw Mt. Township, Piscataquis County.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

Maine. H. B. Peirson (October 10): Red spiders P. uniunguis were severe on white spruce in Augusta.

SYCAMORE

GIANT APHID (Longistigma caryae Harr.)

New York and New Jersey. E. P. Felt (October 22): The giant hickory aphid was locally somewhat abundant on sycamore on Long Island, N. Y., and in several New Jersey localities. It was said that the insects were so numerous on the

oriental planes that the falling honeydew kept the walks beneath moist and was a distinct source of annoyance to those passing beneath the trees.

WILLOW

A SNOUT BEETLE (Orchestes rufipes Lec.) 1

Maine, New Hampshire, and Massachusetts. J. V. Schaffner, Jr. (September 19): Reports have been received in 1932 of the occurrence of this species on willow in South Paris and Kennebunk, Maine; Hampton Falls, New Hampshire; and Hamilton and Natick, Mass. Several trees at Hampton Falls, N. H., and at Kennebunk Beach, Me., had from 50 per cent to 75 per cent of the leaves infested.

Maine. H. B. Peirson (October 7): Rather severe outbreak of the willow snout beetle, O. rufipes, at Cape Elizabeth.

BUCK MOTH (Hemileuca maia Drury)

Pennsylvania. J. N. Knull (October 9): The buck moth has been unusually abundant in parts of Franklin County this fall. Many moths were observed in flight on October 9.

GIANT WILLOW APHID (Tuberolachnus saligna Gmelin)

Massachusetts. E. P. Felt (October 26): The giant willow aphid was reported abundant on willows at Medford.

BEAKED WILLOW GALL (Phytophaga rigidae O. S.)

New York. E. P. Felt (October 22): The beaked willow gall was received from Mount Kisco, and presumably was somewhat abundant.

INSECTS AFFECTING GREENHOUSE

AND ORNAMENTAL PLANTS

CHINESE MANTIS (Tenodera sinensis Sauss.)

West Virginia. L. M. Fears (October 24): The Chinese mantis is increasing its range within the State and becoming a local factor in the control of some of the larger fall insects.

Iowa. H. E. Jaques (October 25): The oriental mantis is now found in Henry County.

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

New York. E. P. Felt (October 22): The flat-headed borer, C. femorata, was received from New York City, accompanied by specimens indicating a somewhat general infestation of dogwood trunks. It is probable that the trees had been weakened by drought or possibly ground fires.

TWO-MARKED TREEHOPPER (Enchenopa binotata Say)

Nebraska. M. H. Swenk (September 20 to October 20): During September, as also earlier in the season of 1932, reports were received of an abundance of the two-marked treehopper on bittersweet.

WHITEFLIES (Aleurodidae)

Georgia. O. I. Snapp. (September 24): Whiteflies were very abundant and caused considerable injury to gardenias during September in Fort Valley.

GARDEN CENTIPEDE (Scutigera immaculata Newp.)

Ohio. J. S. Houser (October): A very sparse infestation on cucumber found near Cleveland. This is of interest since it is the first time this pest has been taken from this area.

California. A. E. Michelbacher (October 20): During the past month in Berkeley I have made observations on the garden centipede, S. immaculata, doing considerable damage to snapdragons in greenhouses. The pest has caused serious loss in both raised and ground benches.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips gladioli M. & S.)

New Hampshire. L. C. Glover (October 22): The gladiolus thrips has caused severe injury in certain plantings during this last season.

Indiana. J. J. Davis (October 24): The gladiolus thrips was reported very destructive at Delphi, September 24. Apparently the infestation originated on bulbs purchased in one of the Eastern States.

Florida. J. R. Watson (October 26): T. gladioli is present on volunteer gladiolus plants in many places but not so abundantly as last spring.

California. S. F. Bailey (July 16): T. gladioli was collected in the garden of Mr. J. D. Long, who stated that last winter he had purchased corms in Colorado and Berkeley, Calif.

MAGNOLIA

MAGNOLIA SCALE (Neolecanium cornuparvum Thro)

New York. E. P. Felt (September 23): The magnolia scale was somewhat abundant and injurious to magnolias in Rochester.

NARCISSUS

BULB MITE (Rhizoglyphus hyacinthi Bdv.)

Ohio. E. W. Mendenhall (October 12): I find in many cases that the bulb mite is very bad in narcissus bulbs grown at Dayton.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

BLACK WIDOW (Lathrodectes mactans Fab.)

Virginia. L. D. Anderson and H. G. Walker (October 27): The hourglass spider, L. mactans, is very abundant in the Norfolk area of Virginia. Numerous specimens have been brought into the laboratory for determination and many have been observed in the fields and woods about the Virginia Truck Experiment Station. Most of the specimens observed have been in the immature stage and no reports of poisoning by these spiders have been recorded.

MOSQUITOES (Anopheles sp.)

Tennessee. G. M. Bentley (October): Mosquitoes, Anopheles sp., are moderately abundant in Western Tennessee; malaria is very bad in that district.

CATTLE

SCREW WORM (Cochliomyia macellaria Fab.)

Mississippi. C. Lyle and assistants (October): An unprecedented outbreak of the screw worm is reported from the Yazoo, Miss., Delta, in Hinds, Rankin, and Scott Counties. Similar trouble is also reported from Pearl River County in southern Mississippi. Losses of sheep, cattle, and hogs are being reported from many localities. (Abstract, J.A.H.)

HORSE

HORSE FLIES (Tabanus spp.)

Oklahoma. C. E. Sanborn (October 21): Horse flies, T. equalis Hine, and T. sulcifrons Macq., T. gracilis Wied., and T. rubescens Bellardi are generally prevalent near Stillwater.

HOUSEHOLD AND STORED-PRODUCT INSECTS

TERMITES (Reticulitermes spp.)

United States. T. L. Snyder (September): During September 94 cases of termite damage were reported to the Bureau of Entomology. The following list gives the number of cases reported from each section: Middle Atlantic, 27; South Atlantic, 14; East Central, 7; North Central, 3; West Central, 16; Lower Mississippi, 11; Southwest, 11; and Pacific Coast, 5.

A TENEBRIONID (Platydera ruficornis Sturm)

Nebraska. M. H. Swenk (October 20): A Nemaha County correspondent found larvae and beetles of the tenebrionid, P. ruficornis, injuring ear corn in the crib by eating the kernels off the cob, during the third week in October. This is the second instance of this sort of injury that has come to our attention from Nemaha County during the last five years.

INSECT CONDITIONS IN PUERTO RICO FROM JANUARY 1 TO JUNE 30, 1932

M. D. Leonard

Insular Experiment Station, Rio Piedras, Puerto Rico.

A 2-acre planting of P.O.J. 2878 sugarcane at the experiment station at Rio Piedras was considerably infested with Sipha flava Forbes during February, March, and April, which were very dry months. On June 4 a light infestation was found on a 2-acre experimental planting of P.O.J. 2725 sugarcane at the station on 2-months-old ratoons in spite of continued rains during May. (T. Bregger.)

Adults of Scymnillodes gilvifrons Chpn. were found on coffee leaves at Adjuntas, April 14. (R. G. Oakley.)

A large number of adult beetles of Disonycha laevigata Jacoby were found on corn leaf sheaths at Loiza, April 11. (C. G. Anderson; det. H. S. Barber.)

Adults of Peregrinus maidis Ashm. were found to be common on the leaf sheaths of several corn plants at Loiza, April 11. (C. G. A.; det. P. W. Oman)

A moderate infestation of larvae of Laphygma frugiperda A. & S. was found in the ears of corn on several plants at Loiza, April 11. (C. G. A.; det. W. Schaus.)

Adults of Oscinella coxendix Fitch were found to be common on the leaf sheaths of several corn plants on a plantation at Loiza, April 11. (C. G. A.; det. J. M. Aldrich.)

A large number of adults and nymphs of Nezara viridula L. were found on the leaves and pods of crotalaria on a plantation at Naguabo, June 3. (C.G.A.; det. H.G. Barber.)

Adults of Kolla similis Walk. were very abundant on the leaves of Mallojillo (or Para) grass at Bayamon, May 15. (C.G.A.; det. P.W.O.)

The adults of Collaria oleosa Dist. were numerous on the leaves of Panicum barbinode at Bayamon, May 15. (C.G.A.; det. H.G.B.)

Adults of Zelus subimpressus Stal were numerous on the leaves of Panicum barbinode at Bayamon, May 15. (C.G.A.; det. H.G.B.)

Mormidea cubrosa Dallas was moderately abundant on grass at Ponce, May 13. (R.G.O.; det. H.G.B.)

A moderate number of adults of Milichiella lacteipennis Loew were found on the leaves of 20 eggplants at Loiza, March 14. (A. S. Mills; det. J.M.A.)

A light infestation of larvae of Carpolonchaea pendula Bezzi was found in the pods in a hamper of Lima beans at Isabela, March 24. The adults were reared. (C.G.A.; det. J.M.A.)

Saissetia oleae Bern. was very bad on a number of young mahogany trees at the Forestry Station, Rio Piedras, March 29. (Det. H. Morrison.) Several

considerable-sized plantings of cassava, from 6 months to 1 year old, were reported to be so badly infested that many of the bushes were entirely devoid of leaves and were dying. Several branches, nearly one-half inch in diameter, submitted for identification, were badly encrusted with the scales in all stages of growth, May 25.

On March 17 at Las Marias the young leaves of a small tree, Momnea americana were heavily infested by Toxoptera aurantii Boyer. (A. G. Harley; det. F. W. Mason.) At Arecibo, April 5, this insect was very heavily infesting growth of five grapefruit trees. (C.G.A.; det. P.W.M.) At Santurce, May 9, there was a light infestation on the young shoots of several Maria trees. (M.D.L.) A moderate number of nymphs and adults were found on the young leaves of grapefruit at Manati, May 13. (A.S.M.; det. P.W.M.)

A small number of adults of Dikraneura depressa McA. were found on leaves on several grapefruit trees at Arecibo, April 5. (R. Faxon; det. P.W.O.)

All stages of Aleurothrixus howardi Quaint. were present in moderate numbers on the leaves of several grapefruit trees at Palo Seco, April 4. A light infestation was found on the leaves of one grapefruit tree at Toa Baja, May 17. (A.S.M.)

Adults of Frankliniella insularis Fkln. were found in hibiscus flowers on March 20, and on grapefruit blossoms May 17 at Mayaguez. (A.G.H.; det. J. R. Watson.) A moderate number of these thrips were found feeding in several grapefruit blossoms at Palo Seco, April 4. (A.S.M.; det. J.R.W.) At Vega Alta, April 15, the thrips was numerous in the blossoms of many grapefruit trees. (C.G.A.; det. J.R.W.)

A moderate number of Frankliniella difficilis Hood were found feeding in several grapefruit blossoms at Palo Seco, April 4. (A.S.M.; det. J.R.W.) This thrips was numerous in the blossoms of many grapefruit trees in Vega Alta, April 15. (C.G.A.; det. J.R.W.)

Beetles of Exophthalmodes roseipes Chevrolat were numerous and eating the leaves of grapefruit in Vega Alta, April 15. (C.G.A.; det. L. L. Buchanan.) On May 12, at Manati, this insect was abundant, having eaten pieces out of many of the leaves of grapefruit. (A.S.M.) The beetles were fairly common and causing some foliage injury in two grapefruit groves at Palo Seco, May 20. (M.D.)

During April, May, and June adults of Diaprepes spengleri L. were very numerous in citrus groves in the northern and western parts of the Island. Specimens submitted were identified as the following varieties of spengleri: doublieri, abbreviatus, and festivus. (C.G.A.) Adults of this insect were abundant at Arecibo, May 24, doing considerable damage to the foliage of grapefruit. A few egg masses were also found. (R.F.) At San Juan, May 7, beetles were observed abundantly (and in copula) on a casuarina hedge. (M.D.L.)

Adults of Morellia scamulata Bigot were found to be common on grapefruit at Arecibo during the examination of about 50 trees, March 1. (C.G.A.; det. J.M.A.) Adults were numerous on the underside of grapefruit April 5. (R.F.; det. J.M.A.)

On March 1, at Arecibo, while examining 50 trees, adults of Sapromyza picticornis Coq. were found to be common on grapefruit. (R.F.; det. J.M.A.)

Adults of Chrysotus excavatus Van D. were found on grapefruit in small numbers at Arecibo, March 1. (C.G.A.; det. J.M.A.)

Adults of Notogonidea vinulenta Cres. were numerous on the flowers of many grapefruit trees at Barceloneta, May 10. (C.G.A.; det. S. A. Rohwer.)

At Corozal adults of Argyria diplomachalis Dyar were found to be common on several guava trees March 18. (C.G.A.; det. W. Schaus.)

Heterothrips sericatus Hood were numerous in all of the blossoms on one guava tree at Barceloneta June 14. (A.S.M.; det. J.R.W.)

A moderate infestation of Fulvinaria psidii Mask. was found on the leaves of guava at Lares April 15. (R.G.O.; det. H. Morrison.)

Twenty per cent of about 100 pods of tamarind were found infested with the larvae of Myelois ceratoniae Zell., Trujillo Alto, March 15. (A.S.M.; det. C. Heinrich.)

A heavy infestation of Aulacaspis pentagona Targ. was found on the trunks of 20 papaya trees at substation, Isabela, March 8.

A heavy infestation of Saissetia hemisphaerica Targ. was found on the stems and leaves of 20 papaya trees at the Isabela substation March 8. (C.G.A.)

A light infestation of this insect was found on the stems of three pepper plants at the experiment station, Trujillo Alto, March 9. (C.G.A.; det. H.M.) On March 9 the scale was fairly abundant on two small trees, Tamarix sp., at the Forestry station, Rio Piedras. (M.D.L.; det. H.M.)

A new species of Eupoasca which is related to E. minuenda Ball, was fairly common, breeding on the leaves of four trees of Anonna diversifolia, at Rio Piedras February 15. (M.D.L.; det. P.W.O.) A moderate number of adults and nymphs of E. minuenda were found feeding on the leaves of one avocado tree at Santurce April 1. (A.S.M.) A small number of adults were found on the leaves of grapefruit at Arecibo, April 5. (C.G.A.; det. P.W.O.)

Adults of Cicadella sirena Stal were numerous on tropical almond leaves at Arecibo May 20. (C.G.A.; det. P.W.O.)

A moderate number of adults and nymphs of Macrotrachelia laevis Champ. were found feeding on Gynaikothrips uzeli Zimm. on Ficus nitida leaves on the Caguas Plaza April 8. (A.S.M.; det. H. G. Barber.)

A heavy infestation of Ischnaspis longirostris Sign. was found on the leaves of four Ficus nitida trees on the Caguas Plaza April 8. (C.G.A.)

Adults of Carpolonchaea pendula Bezzi were reared from the fruit of Inga lirinana. Twenty-five per cent of the fruits were infested with larvae on one plantation at Jayuya, January 18. (R.G.O.; det. J.M.A.)

A heavy infestation of Pseudoparlatoria ostreata Coll. was found on the bark of a Panama potato tree (Solanum grandiflorum leicarpum) while examining four trees at Juncos January 25. (R.F.)

A few adults of Nessorhinus vulpes A. & S. were found on the stems of hicaco (Chrysobalanus icaco) on a plantation near Arecibo May 20. (C.G.A.; det. P.W.O.)

Adult beetles of Oxaxis sp. (possibly new) were numerous on the leaves of several Calophyllum antillanum (Maria) trees in Santurce, May 9. (A.S.M.; det. H.S.B.)

Chrysomphalus dictyospermi Morg. is very bad on a number of young mahogany trees at the Forestry Station, Rio Piedras, March 29. (M.D.L.; det. H.M.)

Adults of Ormenis quadripunctata Fab. were numerous on the leaves of several Cocolobis uvifera (L.) Jacq. plants at Anasco May 2. (C.G.A.; det. P.W.O.)

Adults of Bothriocera venosa Fowler were numerous on the leaves of several seagrape plants, Cocolobis uvifera (L.) Jacq., in Anasco May 2. (A.G.H.; det. P.W.O.)

Many adults of Ormenis pygmaea Fab. were found on the leaves of pomarrosa trees at Corozal April 12. (C.G.A.; det. P.W.O.)

Adults of Colpoptera maculifrons Muir were numerous on the leaves and stems of pomarrosa at Bayamon June 6. (A.S.M.; det. P.W.O.)

Several Cassia siamea trees on the Station grounds at Rio Piedras were badly infested with Asterolecanium pustulans Coll. May 6. (F. Sein.)

A number of casuarina trees on the plantation at Rio Piedras were moderately infested with Howardia biclavis Comst. (G. N. Wolcott; det. H.M.)

The following insects were collected either on unidentified plants or at lights and in many cases are the first records for the species from Puerto Rico:

Exitianus obscurinervis Stal

Encyrtatus geniculatus Reut.

Corecoris batatas Fab.

Pychoderes heidemanni Reut.

Polymerus cuneatus Dist.

Reuteroscopus ornatus uvidus Dist.

Lasiochilus fuscus Reut.

Aegyria lacteella Fab.

Mocis disseverans Walk.

Monodes agrotina Guen.

Monarus concinnulus Walk.

Conoderus bifoveatus Beauv.

Stephanoderes braziliensis Hopk.

Cactylosternum abdominale Fab.

Disonycha spilotrachelus Blake

Siphunculina signata Wollaston

Acinopterus angulatus Laws.

Baccha dimidiata Fab.

Correction: Vol. 12, No. 7, p. 338, 4th paragraph, the last sentence refers to Systema basalis Duv. and not to Cylas formicarius Fab.

THE EFFECT OF THE HURRICANE OF SAN CYPRIAN
ON INSECTS IN PUERTO RICO

G. N. Wolcott

Insular Experiment Station, Rio Piedras, Puerto Rico

The north coast of Puerto Rico was swept by a hurricane on the night of September 26, 1932, the violence of which continued for four or five hours into the morning of the 27th. The direction of the wind was almost entirely from the north and northeast; it veered to the south less than half an hour before decreasing greatly in intensity. Only slightly less than the reported maximum velocity of 160 miles per hour was maintained throughout most of the period of the hurricane.

The effect of the hurricane on many insects presumably will not be marked; those which are subterranean, for instance, being but little affected by the high wind, while the rainfall accompanying was no more than the precipitation of many an ordinary storm. On the first night after the hurricane a May beetle, Phyllophaga portoricensis Smyth, was noted at candlelight on the second story of a house in Rio Piedras, and on the following night two black "hard-back" beetles, Dyscine-tus barbatus Fab. were found under similar conditions. The entrances of ant nests in the ground were noted as being open by the second morning; and while the food supply of the ants may differ from normal, it should not lack for quantity. Ants living in trees may, however, suffer a temporary loss in population, as branches weakened by their tunnels would presumably be most easily wrenched off by the wind. Similarly, insects living within plant tissue are but little affected, the caterpillars of the sugarcane borer, Diatraea saccharalis Fab., being uninjured, even when the cane itself is flat on the ground.

Despite the almost total defoliation of most trees, leaf-feeding insects appear to be present in normal abundance, more adults of the common large otiorhynchid beetle Diaprepes abbreviatus L. having been noted in citrus nurseries at Rio Piedras and Bayamon a few days later than had previously been observed in several months. Even such apparently fragile insects as butterflies may not have been much affected, except as their habitat may have temporarily been changed, a zebra butterfly, Heliconius charitonius L., for instance, having been noted flying about in the plaza at Rio Piedras far from the woodland glades it usually frequents.

The insects feeding on dead or dying wood, on or under dead leaves, and on rotting fruit will of course have enormously increased supplies of food available for their consumption, at least temporarily, but practically none after the supply at present available disappears, and a corresponding fluctuation in their abundance may be anticipated.

As regards the natural enemies of insects, considerable numbers of dead toads have been noted since the hurricane, but these stupid animals are so often run over by automobiles under normal conditions that the observed mortality may be little more than would have occurred during heavy rainfall unaccompanied by high wind. In defoliated citrus groves birds seem much more numerous than formerly, for they are not accustomed to the absence of leaves, and take no precautions to remain hidden, even if that were possible. So far as observed, there has been no great mortality among them, despite that reported after previous storms. For

instance, Van Zwaluwenburg, quoting Barrett, states that the changa, Scaoteriscus vicinus Scudder, "has been very troublesome in Puerto Rico only since the hurricane of 1876, which is supposed to have destroyed most of the insect's bird enemies. After 1885 the insect seemed to decrease slightly in numbers until the hurricane of August, 1899."

Surprisingly enough, the insects most directly affected by the hurricane are the scale insects. The trunks and branches of trees exposed to the full force of the wind are smoothed of rough bark and all projections in a most surprising manner. Of course some scales persist in the crotches and on the petioles of leaves, but the breaking off of leaves, twigs, and large branches causes an immediate decrease in their numbers only exceeded by the mortality caused by the direct action of the wind and rain in rubbing the insects from their host. Despite the temporary very great decrease in the number of scale insects, in the case of the cottony-cushion scale, Icerya purchasi Mask., the ultimate effect of the hurricane will be to greatly extend its previously restricted range. Previous to the hurricane, its distribution was largely limited to casuarinas and citrus trees in San Juan and Santurce, and to citrus groves along the coast to a little west of Dorado, extending inland only to Pueblo Viejo and Bayamon in small and scattered infestations. Owing to the effect of the fungus in the summer, and more recently to the greatly increased numbers of Australian lady beetles, (Vedalia) Rodolia cardinalis Mulsant, both in citrus groves and on casuarina trees, coupled with effective spraying, the numbers of this new pest had been greatly reduced. Since the hurricane, only a few small scales can be found on the trees previously even most heavily infested, but as this foreign scale can thrive on many kinds of native trees and plants, its distribution has presumably been greatly extended to the south and west of its former range.

Specimens of a scale (tentatively identified by me as Saissetia oleae Bern.) are very abundant on a considerable number of Ficus sp. trees along the road south from Fajardo, blackening their branches and in some cases causing considerable defoliation. I do not previously remember having noted this scale in such large numbers and on so many trees. As to the species of Ficus, it is not nitida and not laevigata.

A NOTE FROM CUBA

A PYRALID (Homoeosoma electellum Hulst)

Cuba. A. Busck. In two letters, of September 8 and 20, Dr. S. C. Bruner, Chief of the Department of Entomology, Estacion Experimental Agronomica, Santiago de las Vegas, Cuba, reports 21,600 acres of commercial sunflower, planted near Madruga, eastern Havana Province, seriously injured by H. electellum (Heinrich det.), 500 acres being nearly ruined.

INSECT CONDITIONS IN COSTA RICA DURING AUGUST, SEPTEMBER, AND OCTOBER, 1932

C. H. Ballou

San Jose, Costa Rica

Diestostemma rugicolle Sign. is doing little if any damage to coffee in San Pedro de Montes de Oca and Pasó Ancho de San Sebastián (October 8). This insect feeds on Casuarina.

Macroductylus costulatus Bates and Faula brunneipennis Bates were observed on peach leaves and buds in May and June and caused considerable damage on leaves and buds from May to the middle of July at San Pedro de Montes de Oca. (Det. E. A. Chapin.)

In May, June, and July the beetle Colaspis prasina Jacoby was bad on the leaves of eggplant at San Pedro de Montes de Oca. (Det. H. S. Barber.)

Diabrotica corusca Jacoby and D. theimei Baly were taken August 5 on Cucurbita ficifolia Bouche at San Pedro de Montes de Oca. (Det. H. S. Barber.)

The weevil Geraeus senilis Gyll. was observed on the axils of corn leaves July 9 at San Pedro de Montes de Oca. (Det. L. L. Buchanan.)

The caterpillars of Laphygma frugiperda S. & A. were very harmful on half-grown corn plants in late June and July, San Pedro de Montes de Oca. At La Palma, October 4, this insect was doing considerable damage to corn. (Det. W. Schaus.)

The moth borer Azochis griposalis Walk. was harmful during the entire year to figs, discouraging the growing of this fruit. Adults are still emerging (August 13) from caterpillars that I have been rearing since May 28. The old borings are often occupied by families of earwigs. This moth borer is beginning to become serious again on fig, October 8. San Pedro de Montes de Oca. (Det. Schaus.)

Moths of Stenoma sororia Zell. are very bad; caterpillars fasten leaves together and eat between and bore into buds and tender twigs; pupae between leaves; observed May 28 to August 13, San Pedro de Montes de Oca. (Det. A. Busck.) August 13 to October 8 the caterpillars of this insect were abundant and harmful, causing the death of twigs of avocado at San Pedro de Montes de Oca.

A tent-caterpillar, Stericta albifasciata Druce, has been found on avocado at San Pedro de Montes de Oca; the tents were small, probably, because I discovered them and destroyed them before they had done much damage. Pupae covered with soil are on the surface of the soil. (August 13.) (Det. Schaus.)

The tent caterpillar Jocara subcuroalis Schs. ? appears to be more harmful than Stericta albifasciata Druce, defoliating and destroying tender bark on small branches and causing loss of branch. Pupae in leaf trash. June 24 to August 13. San Pedro de Montes de Oca. (Det. Schaus.)

Jocara claudalis Mosch. is bad on avocado at San Pedro de Montes de Oca. The new brood of caterpillars was at work August 12; it pupates just below the

surface of the soil. From August 13 to October 8 this caterpillar was abundant and harmful, causing the death of twigs. (Det. Schaus.)

The moth Hyophypena colbodes Wals. is not serious; caterpillars and pupae are scattered mostly on outer leaves of avocado; naked pupae on upper surface of leaves. Observed at San Pedro de Montes de Oca from May 10 to September, the caterpillar of this insect was usually present but not numerous on avocado and rather hard to collect because it feeds upon leaves on rather inaccessible branches (Det. Busck.)

The moth borer Hypsipyla grandella Zell. destroys the greater part of young cedar trees at the school at San Pedro de Montes de Oca before they attain 1 meter height. Larvae have been abundant since first observed June 27 until the present time, September 9. More adults of the moth borer have emerged. It prefers C. montana var. mexicana Turcz. to C. glaziovii var. puberula C.DC. (Det. C. Heinrich.)

Three specimens of moths reared from the leaves of roble de sabana, Couratija rosea Donnell-Smith, San Pedro de Montes de Oca, July, determined by W. Schaus as Mesocondyla concordalis Hbn. August 13 to September 8 more adults of the leaf-eating caterpillar have emerged on C. rosea. This caterpillar is very harmful to C. rosea. (October 8.)

A cicadellid, Cicadella areolata Sign., is usually found on arrowroot, but does little if any damage. It is a frequent visitor to bean plants and also feeds on caiba (Cyclanthera pedata Schrad., fam. Cucurbitaceae), San Pedro de Montes de Oca. On a young tree in Paso Ancho de San Sebastian the tender young leaves of orange were injured by it. C. areolata is also found on pitanga (Eugenia uniflora), August 13 to September 8. This insect feeds on the leaves of aguacatillo (Phoebe tonduzii), a tree we are trying out as a stock for avocado, but the insect is not important, San Pedro de Montes de Oca. It has been taken on dahlia at Naranja; feeds on the leaves of malacca pear (Eugenia malaccensis) without doing much damage. (October 8.)

Cicadella pardalina Fowl. feeds upon the leaves of malacca pear without doing much damage. It is injurious on tender shoots of pear, and breeds on poro (Erythrina rubrinervia). October 8. This insect is also found on cashew, but is never abundant. It is a pest of some importance on quince. (August 13 to September 8.)

A cicadellid, Gyona vulnerata Walk., does some damage on tender tips of apple at San Pedro de Montes de Oca, and frequently feeds on Casuarina equisetifolia L. It also attacks cherimoya, dahlia, lemon, orange, pear, pecan, and soursop. September 9. This insect feeds on the tender shoots of avocado, but appears to do little damage to coffee in San Pedro de Montes de Oca and Paso Ancho de San Sebastian, and is not very harmful on orange. (October 8.)

A membracid, Stictocephala festina Say, is a frequent visitor to red clover, San Pedro de Montes de Oca, September 9.

Membracis mexicana Guer. is frequently found on apple, but appears to do little damage. It is found on camellia, usually found on Dovyalis hebecarpa Warb., and occasionally on guachipelin (Diphyssa robiniodes Benth.). It is fre-

quently found on Melaleuca leucadendron L. It is also found on nican, plum, roselle, sourson (which appears to be a favorite host plant), and ylang-ylang. San Pedro de Montes de Oca, August 13 to September 8. M. mexicana is doing little if any damage to coffee; it feeds upon the leaves of malacca pear without doing much damage; also on noro (Erythrina rubrinervia), which is used as a shade for coffee and for living fence posts; it breeds on ylang-ylang. San Pedro de Montes de Oca.

Monocophora bicincta Say, a cercopid found on para grass, is not very abundant and appears to do less damage at San Pedro de Montes de Oca than in the Cauca Valley of Colombia or in Camaguey, Cuba, where it is a pest of prime importance.

Saissetia henisphaerica Targ. is found on cosmos and Cycas revoluta; it is especially harmful just now (September 8) on tender new growth of lemon, a serious pest on orange, appears to be the worst pest on pitanga (Eugenia uniflora), and is an important pest on Poncirus trifoliata and abiu (Pouteria caimito Radlk.), a valuable fruit; San Pedro de Montes de Oca.

Saissetia oleae Bern. attacks cherimoya, San Pedro de Montes de Oca. It does but little damage to Mandarin orange, is not very harmful to orange, is harmful to Poncirus trifoliatus, and scarce on leaves of ylang-ylang.

Pseudococcus citri Risso is not very important on grapefruit at San Pedro de Montes de Oca, but is a serious pest on orange.

At San Pedro de Montes de Oca, Aleurocanthus woglumi Ashby, is found on lemon; present on mango, but not important; a serious pest on orange. It is found on pitanga (Eugenia uniflora) but is not important. It is on lime in Tres Rios. Adults of the citrus blackfly gather in numbers on the tender new leaves of Ceiba pentandra to feed. It is present on coffee but not abundant at San Pedro de Montes de Oca and Paso Ancho de San Sebastian. The insect feeds on the leaves of Malacca pear (E. malaccensis) without doing much damage, San Pedro de Montes de Oca. Adults are abundant on leaves of mulberry at Naranja. It is a serious pest on orange.

Selenaspidus articulata Morg. on orange from Liberia, Province of Guanacaste. I have not seen this scale in the Meseta Central. (August 13 to September 8)

Lepidosaphes beckii Newm. is found on lemon at San Pedro de Montes de Oca; it is a serious pest on orange.

Lepidosaphes gloveri Pack. is a serious pest on orange at San Pedro de Montes de Oca.

Aulacaspis pentagona Targ. is always bad on mulberry (M. rubra), also harmful on Hibiscus mutabilis L. and peach. This insect is serious on an Excelsior plum tree in San Pedro de Montes de Oca, October 8.

Ischnaspis longirostris Sign. causes yellowing and death of vines on isolated plants of Asparagus sprengeri at Paso Ancho de San Sebastian and San Jose, Oct. 8.

A homopterous insect, Aethalion quadratum Fowl., is sometimes found in colonies on the branches and twigs of avocado. The females deposit a mass of eggs over which they remain until hatched. When the colonies are large they cause de-

pressions and other malformations in the bark of the branch where they feed. San Pedro de Montes de Oca, August 13 to September 8.

At the American legation in San Jose Aethalion reticulatum L. was rather abundant on ylang-ylang and had caused sunken areas in the bark of the areas where it fed. It is found on orange and peach, and also feeds on Dovyalis hebecarpa Warb. at San Pedro de Montes de Oca, August 13 to September 8. A. reticulatum L. breeds on poro (Erythrina rubrinervia) which is used as a shade for coffee and for living fence posts.

A lace bug, Corythucha gossypii Fab., injured the leaves of soursop. The insect not abundant. August 13 to September 8. This bug marred a large part of the foliage of soursop. San Pedro de Montes de Oca, October 8.

INSECT CONDITIONS IN GUATEMALA DURING JUNE AND JULY, 1931

Marston Bates

12 Calle Oriente No. 1, Guatemala City

Trionymus sacchari Oehl. was taken July 7, at an elevation of 5,000 ft. at Antigua. (Det. H. Morrison.)

Pseudococcus citri Risso, with its attendant ant Solenopsis geminata Fab. and the ladybeetle Hyperaspis bicrucata Muls., was found infesting coffee on June 15 at an elevation of 5,000 feet at San Sebastian Reu. (Det. Morrison, W. Mann, E. A. Chapin.)

A species of Eriococcus, apparently undescribed, and near E. cockerelli Essig and E. turcinciae Laig., was found at an elevation of 3,000 feet infesting guava (Psidium guajava) on June 2, at Guatalon. (Det. Morrison.)

Echinicerya anonae Morr. was found lightly infesting a few citrus trees on June 15 at an elevation of 3,000 ft. at San Sebastian Reu. (Det. Morrison.)

Chrysomphalus dictyospermi Morg. was found infesting rose on June 15 at San Sebastian Reu. (Det. Morrison.)

Icerya purchasi Mask. was taken from rose at an elevation of 5,000 ft. at Guatemala City. (Det. Morrison.)

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

Vol. 12

Summary for 1932

No. 10

INTRODUCTION

The weather of the year as a whole did not show an extreme departure from normal as did 1930 and 1931. Perhaps the most notable features were the mild preceding winter and cold March and the dry fall in the West.

Late winter was very mild east of the Rockies, but somewhat below normal in temperature in the mountain and Pacific regions, especially in the Great Basin. January rainfall was normal or higher in most of the country, whereas February was rather deficient in precipitation.

March was warmer than normal on the Pacific Coast, but much colder in the rest of the country, with a long severe cold wave early in the month. April and May were generally slightly above normal in temperature. Rainfall was variable, near normal early in the spring, and rather deficient late in the spring.

The summer months were near but somewhat above normal in temperature, the northern plains being especially warmer. Summer rainfall was variable, near normal on the whole, rather below normal in July, but usually sufficient for crops.

The fall months were near normal in temperature, with rather warm weather on the Pacific Coast; there was considerable, but not extreme, cold weather in early winter. Precipitation during the period was generally plentiful east of the Mississippi but scanty westward, with drought injury in the hard winter-wheat region.

The mild winter was reflected by material northward advances of many southern species of insects, and the practically normal year was associated with decided increases of many of our troublesome species.

GRASSHOPPERS

The infestation of grasshoppers (Melanoplus spp.) in the Great Plains was more widespread than it was in 1931 but, in general, less severe. Rainy, cool weather in May and June in the southern part of this area resulted in a rank growth of wild vegetation and a reduction in damage to cultivated crops. This weather was unfavorable to the development of young hoppers, and later parasitic flies and sometimes a fungus disease further reduced the grasshoppers. The most seriously infested areas this year were in eastern North Dakota, northwestern Minnesota, central and south-central South Dakota, and to a lesser extent northern Wisconsin and northern Michigan. Another section of somewhat severe damage was reported from north-central Nebraska. The American grasshopper (Schistocerca americana Drury) became unusually abundant in the Gulf region and along the south Atlantic seaboard, late in the season.

EUROPEAN CORN BORER

The European corn borer (Pyrausta nubilalis Hbn.) did not spread so far as usual this year. Newly infested townships in Indiana, Kentucky, Pennsylvania, Maryland, and Virginia, however, were found this fall. The corn borer is now known to infest portions of the New England, Middle Atlantic, and East Central States, westward to Wisconsin and Indiana, and southward to Kentucky, West Virginia, and the Eastern shores of Maryland and Virginia, and the eastern corn-growing provinces of Canada. Populations in general showed increases over those of 1931 and 1930. In the one-generation area the densest infestation is around the eastern end of Lake Ontario in New York State, and the greatest increase in population in the eastern three tiers of counties south of Lake Huron in Michigan. Along the seaboard of New England and on Long Island, New York, the infestation and population increase was heavier than in other parts of the two-generation area.

ARMYWORM

Early in the summer infestations of the armyworm (Cirphis unipuncta Haw.) were quite generally reported from Iowa and southeastern and eastern Nebraska. These, however, did not develop into serious outbreaks.

CUTWORMS

During the winter months cutworms were very active throughout the Gulf region. During March heavy infestations occurred along the South Atlantic seaboard where the worms were damaging tobacco and early truck crops. The damage in places to tobacco was more severe than it has been for several years. During April one of these insects stripped 100 acres of sugarcane in the Everglades section of Florida, and the dark-sided cutworm (Euxoa messoria Harr.) was seriously damaging alfalfa in east-central Nebraska. A small outbreak of the army cutworm (Chorizagrotis auxiliaris Grote) was reported in April in Montana. During May reports of cutworm damage were received from practically the entire country, from Maryland to Washington State and southward to the Gulf. During June the general cutworm outbreak subsided in most sections, but the pale western cutworm (Porosagrotis orthogonia Morr.) and the variegated cutworm (Lycophotia margaritosa saucia Hbn.) did considerable damage over the North Central States from Wisconsin to Montana and southward to Kansas and Tennessee.

HESSIAN FLY

The very favorable winter conditions that prevailed throughout the East Central States resulted in the appearance of the Hessian fly (Phytophaga destructor Say) in very threatening numbers in many parts of this region. The extremely cold weather that followed during the middle of March over the eastern part of this region undoubtedly materially reduced the number of these insects in places. In Illinois, Missouri, and Nebraska, however, the insect was not seriously affected and in general throughout the Winter Wheat Belt this insect was more numerous than it has been in several years. The late-summer surveys to ascertain the population of flies capable of infesting the fall-planted grain indicated unusually high populations from central Pennsylvania to southeastern Nebraska and central Missouri. In infestations over much of this territory over 30 per cent of the straws were infested. In New York State the infestation was only moderate, running from 4 to 15 per cent, but in Pennsylvania the situation was much more serious. That part of the State lying south of Union and Columbia Counties and east of Blair and Bedford Counties harbored populations running from 30 to 60 per cent. A similarly high infestation was recorded from the southwestern corner of the State and an infestation of over 30 per cent along its entire western border. This condition also extended southward into all of the wheat-growing counties in Maryland west of the Chesapeake Bay. The infestation on the eastern shore of this State and in Delaware was considerably lighter. In Ohio a belt of heavy infestation extended from the northern part of the State in an ever widening band until it covered the entire western border of the State. The heaviest part of this infestation was in the counties surrounding Wayne County. This band continued westward over the greater part of central and north-central Indiana with very heavy infestations in the west-central part of the State from White to Parke Counties. Another area of heavy infestation was in the southwestern corner of the State. In Illinois the band narrowed to cover about four tiers of counties from Vermillion and Lawrence Counties on the east to Greene and Jersey Counties on the west. As a whole in this State the infestations were heavier in the eastern than in the western counties. The band proceeded, though decidedly less intense, across central Missouri and into northern Kansas, passing on into southeastern Nebraska.

CHINCH BUG

The very favorable winter conditions that prevailed over the greater part of the East Central and West Central States resulted in large populations of the chinch bug (Blissus leucopterus Say) passing the winter successfully over much of this area. Cold rains of early May were somewhat detrimental to the insect, but the favorable weather which followed more than offset this check. Serious damage was done throughout central and western Illinois, with less severe damage across central Missouri and southeastern and south-central Kansas into the entire central area of Oklahoma. Damage was generally light in Indiana with the single exception of a small outbreak in the northeastern corner of the State in DeKalb, Allen and Huntington Counties, which extended across into the northwestern corner of Ohio. This insect became troublesome very much north of its usual range. Reports of damage have been received from the southern two tiers of counties in Michigan; the southern two tiers of counties in Iowa, as far west as Taylor and Union Counties, and from the southern tier of counties of Nebraska, going somewhat farther north in the southeastern part of the State. Isolated outbreaks occurred in the northwestern corner

of Iowa in Lyon County, along the Mississippi River in Minnesota and Wisconsin near Minneapolis and St. Paul, in parts of Pennsylvania, in Coahoma and Leflore Counties in Mississippi, and in Douglas and Charles Mix Counties in South Dakota.

GREEN BUG

The green bug (Toxoptera graminum Rond.) developed in threatening numbers during the late winter in the South Atlantic States and Gulf region. This, however, did not develop into a serious outbreak, although local outbreaks were reported from west-central Missouri, northwestern Mississippi, and south-central Pennsylvania.

ALFALFA WEEVIL

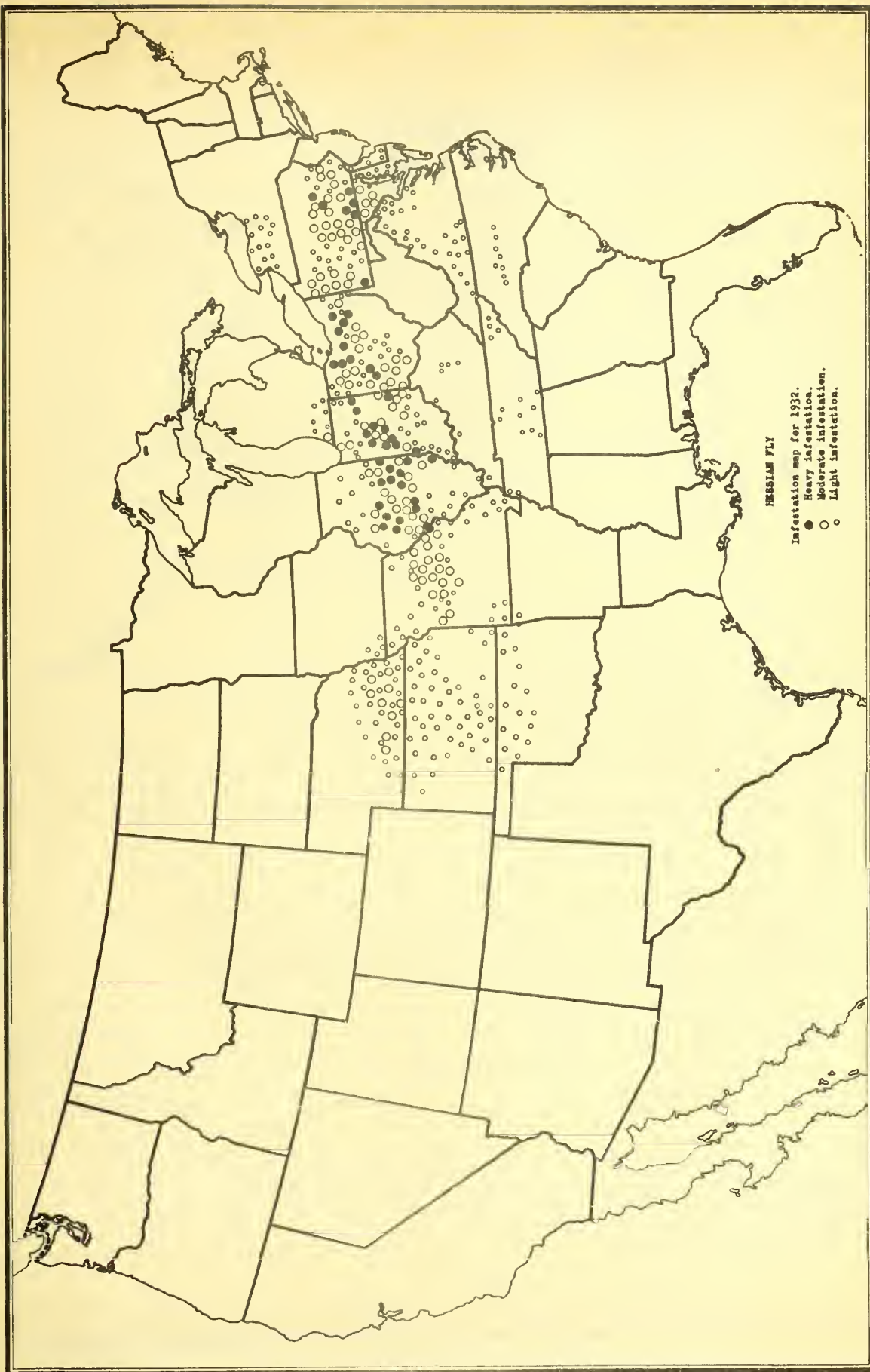
The alfalfa weevil (Hypera postica Gyll.), which started attracting attention in the Uintah basin of Utah in 1925, has gradually spread and increased until practically every alfalfa field in this basin suffered damage this year. The first serious damage occurred in this basin in 1931 and the insect is much worse this year than last. The insect was also reported as troublesome in a number of other parts of the State where it has been a pest for many years. This insect was also destructive in some of the valleys of western Nevada, while at other places it had dropped to a negligible factor. In the upper Snake River valley of Idaho the weevils were numerous enough noticeably to retard the growth of alfalfa, but in southwestern and southeastern Idaho weevils were from normal to subnormal in numbers. On May 12 a single specimen was found in the San Joaquin Valley near Tracy, Calif. Subsequent scouting showed that the infested area extends into the following five counties: Stanislaus, San Joaquin, Alameda, Contra Costa, and Santa Clara. In the last two counties the infestation is confined to two places in the northern third of the counties. Save for occasional infestation along the California-Nevada State line in Sierra, Plumas, Lassen, Alpine, and Mono Counties, this is the first record of establishment in the State of California.

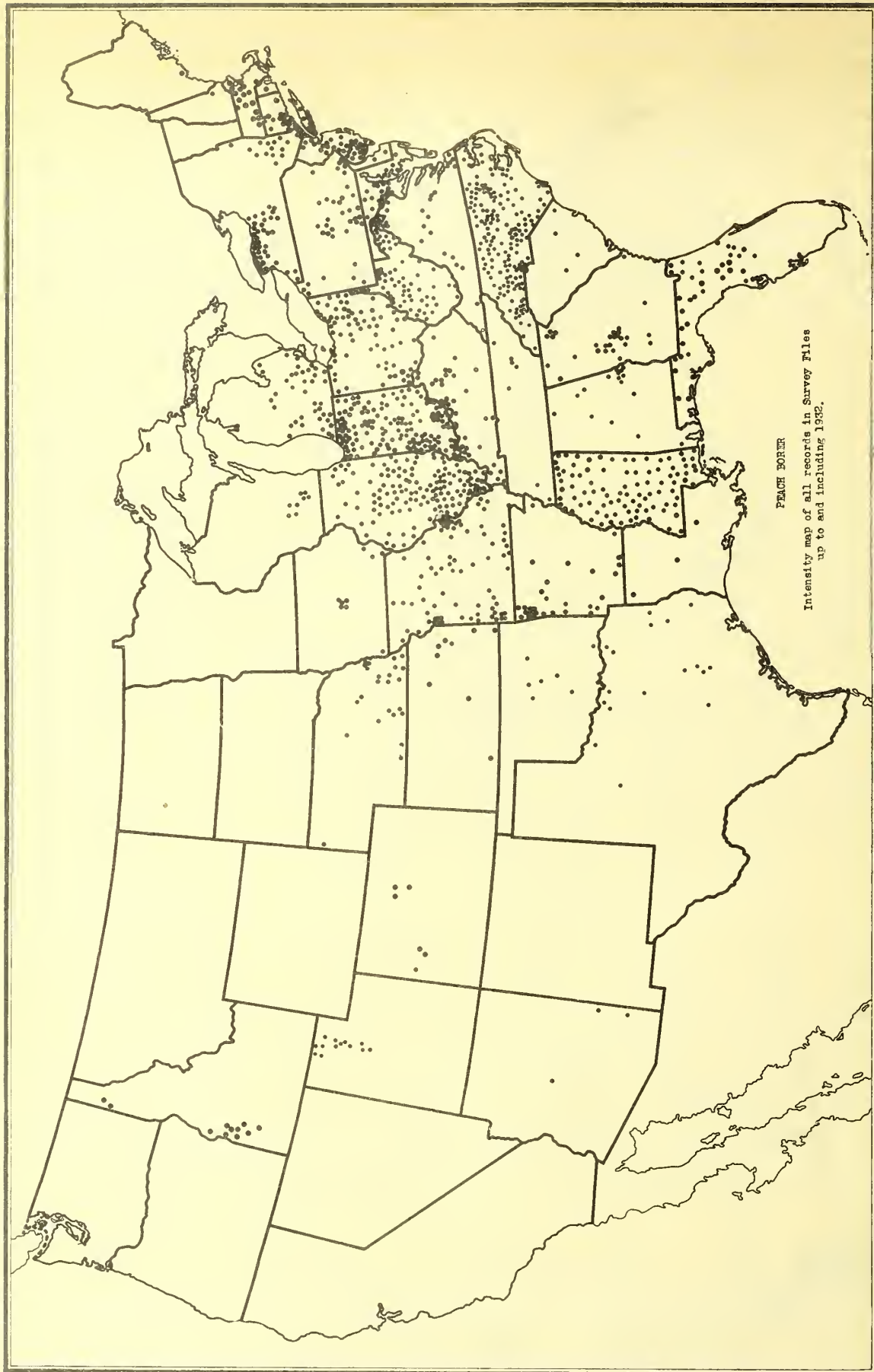
CODLING MOTH

The codling moth (Carpocapsa pomonella L.) survived the winter of 1931-32 with very low mortality. The March freeze, which acted adversely on so many insects, apparently had but little effect on the codling moth. During the third week of April pupation was well under way in the Middle Atlantic, East Central, and West Central States, and was about one-third complete in the Pacific Northwest. Late in the month emergence had started in the South Atlantic and South Central States, and in the Southwest adults were abundant in the bait pans by the middle of April. The peak of emergence in the East Central States occurred about the middle of May. In general the insect was very abundant throughout the greater part of the country this year. In Illinois it was more serious than it has been any time during the past 10 years.

ORIENTAL FRUIT MOTH

Early in February overwintering larvae of the oriental fruit moth (Grapholitha molesta Busck) began pupating in the South Atlantic States. Adults started emerging about the middle of April in the southern Middle Atlantic States, at which time egg-laying was observed in Georgia, while in





PEACH BORER

Intensity map of all records in Survey Files
up to and including 1982.

the fruit belt of western New York the insect was still in the larval stage. Early in April adults commenced to emerge as far north as Delaware. These emergence records are more or less in accord with those of previous years except that in Georgia the appearance was later than it had been any previous year since the establishment of the insect in that State. The insect seems to be gradually spreading into new territory. In many sections the damage to fruit was rather severe owing to the extremely short crop of fruit.

PEACH BORER

The suggested possibility of the association of the peach borer with the disease known as phoney peach has stimulated an interest in the distribution of this insect. We are therefore publishing in this number of the Survey Bulletin a map showing all of the records that we have on the distribution of this pest and the relative intensity of its infestation in the various regions. In general the insect is distributed over the United States east of the 100th meridian and south of southern Wisconsin, central Michigan, Lake Ontario, and the northern border of Massachusetts; scattering reports have been received west of the 100th meridian, and the insect seems to be well established in the Great Basin in Utah and in southwestern Idaho. On the West coast another species supplants the peach borer. What appear to be sparsely infested areas east of the Mississippi River are in all probability due to lack of observations of the permanent recording of such as were made.

MEXICAN FRUIT WORM

On the morning of January 29 an adult (Anastrepha ludens Loew) was caught in a grove about $2\frac{1}{2}$ miles northwest of Weslaco, Tex. This is apparently the first adult that has been collected on the American side of the river. Up to the end of March infestations were found in 40 groves extending from San Benito to Mission. The infestations were more general in Hidalgo County than in Cameron County. More groves were found infested in the Weslaco, Pharr-San Juan-Alamo, and Mission districts than in other parts of the county.

FIG MOTH

If one assumes a 1932 crop of about 13,000 tons of dried figs in California and bases computations on averages secured by the Food and Drug Administration, covering detected infestations, and consequent loss in sales value, of deliveries made at packing houses, the estimated loss to fig growers this year on account of infestation by insects will total about \$216,000, not including fruit culled out on ranches. The greatest part of this loss was caused by moth larvae, chiefly Ephestia figulilella Greg. (1)

PLUM CURCULIO

The plum curculio (Conotrachelus nenuphar Hbst.) appeared late over the eastern part of its range. It was first collected in the field in Tennessee on April 4; in Georgia April 5; in Virginia April 6; and in Delaware April 20. This is the latest appearance of adults in the past 12 years in Georgia. As

(1) Perez Simmons, Bureau of Entomology, U.S.D.A.

the season advanced this insect appeared to be somewhat more abundant than usual in the Mississippi Valley from Kentucky to Mississippi. Owing to the material curtailment of spraying over much of the eastern fruit belt the curculio went into winter quarters in 1932 over much more of its range in greater numbers than it did in 1931.

SAN JOSE SCALE

The large populations of the San Jose scale (Aspidiotus perniciosus Comst.) that built up during 1931 apparently passed the winter of 1931-32 with very low mortality. The freeze of March which occurred as far south as Georgia gave the scale a decided setback. In Illinois mortality ran as high as 25 per cent, which, however, was apparently offset by favorable conditions and general reduction in spraying activities. In the spring the insect was quite generally reported as increasingly abundant from New York to Georgia and westward to Illinois, Michigan, and Missouri, and southward to Mississippi and Tennessee. Increasing populations were also reported from Colorado and Oregon, and very heavy infestations were reported from western New York, Michigan, southern Illinois, southern Missouri, southern Mississippi, eastern Texas, and Oregon.

FRUIT APHIDS

Early spring observations indicated that eggs of fruit aphids were quite generally scarce throughout New England, increasing in abundance southward and westward. As the season advanced these insects were quite generally sub-normally abundant throughout the country.

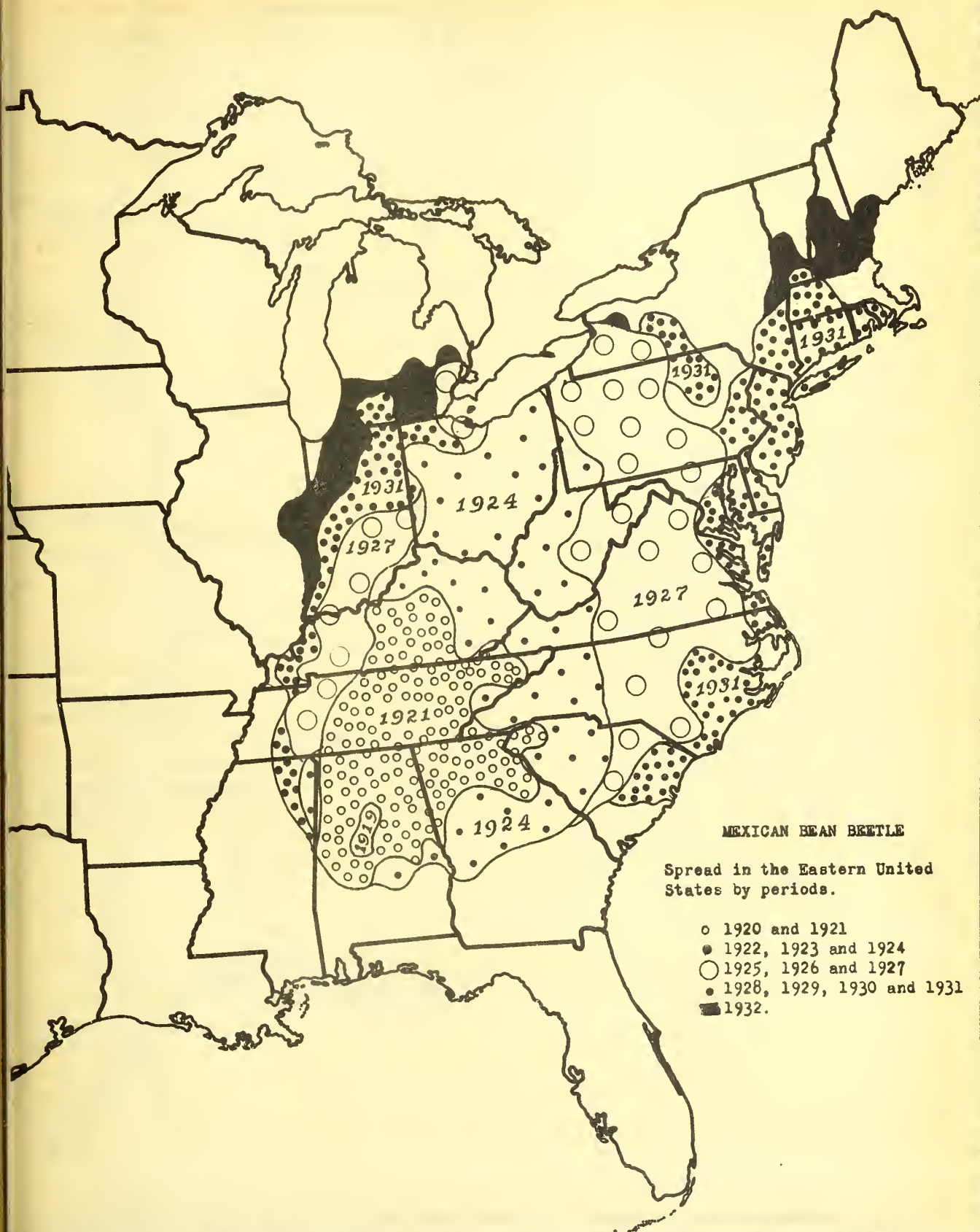
MEXICAN BEAN BEETLE

Adults of the Mexican bean beetle (Epilachna corrupta Muls.) passed the winter exceptionally well in the northernmost part of the territory now known to be infested, and adults were emerging from hibernating quarters during the third week in April in Delaware. By the middle of May they were appearing in numbers in bean fields in the Middle Atlantic States. They increased rapidly in numbers during June and were doing considerable damage over the greater part of their range by the end of that month. During the year the insect was observed for the first time in eastern Illinois, central New Hampshire, southwestern Maine, and two counties farther north in Vermont.

VEGETABLE WEEVIL 1

The vegetable weevil (Listroderes obliquus Gyll.) has been found in new localities in the Northwest and Northeast. During the year it was recorded as infesting the entire northwestern quarter of Louisiana, so this State is now entirely infested. It was found for the first time this year in the State of Arkansas, in the two southeasternmost counties. This weevil has also been found for the first time in Georgia this year, reports of its occurrence having been received from three counties along the western border of the State and from one county in northcentral Georgia. In Texas it was recorded from one additional county immediately west of the territory known to be infested.

1 M. M. High, Bureau of Entomology, U.S.D.A.



MEXICAN BEAN BEETLE

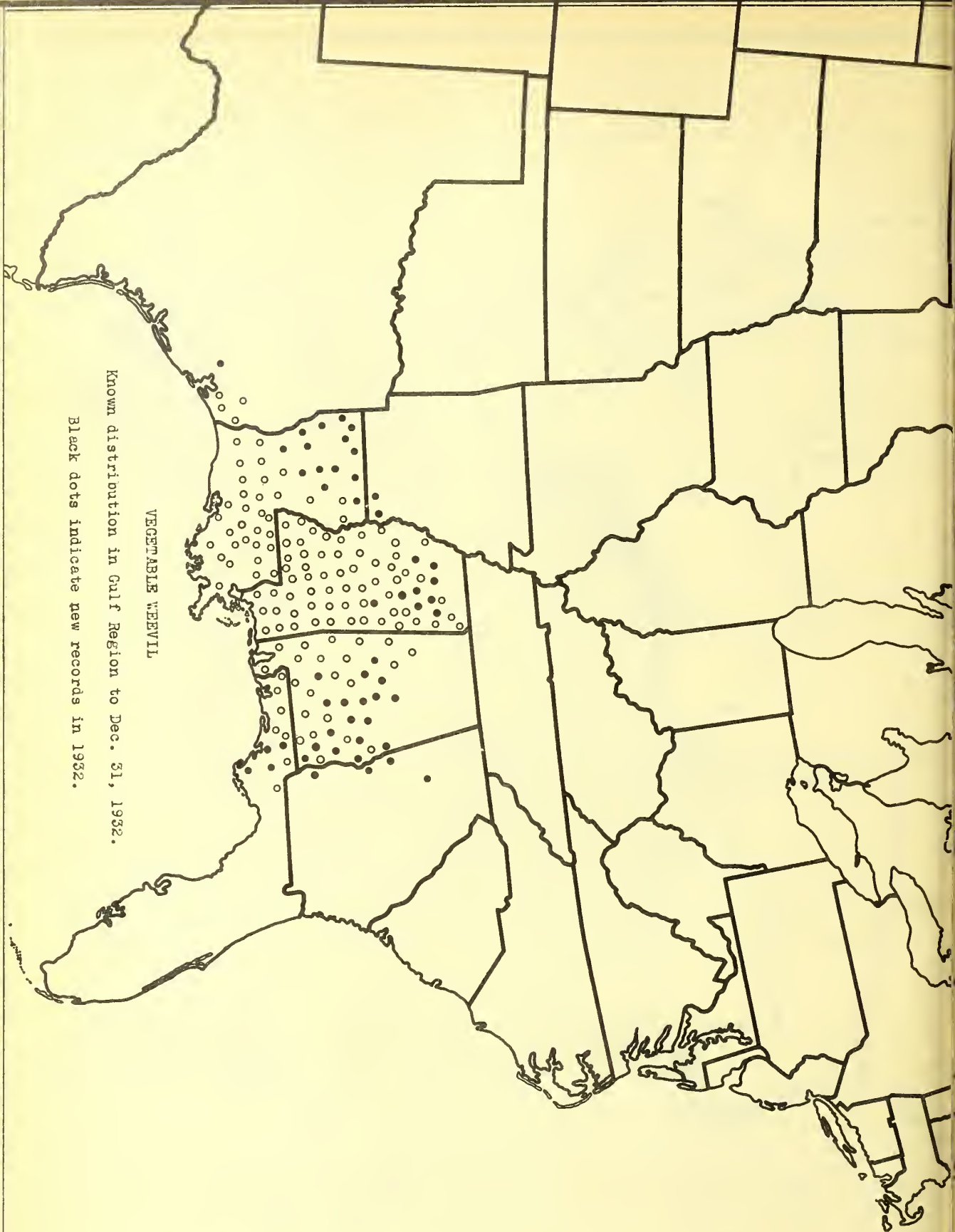
Spread in the Eastern United States by periods.

- 1920 and 1921
- 1922, 1923 and 1924
- 1925, 1926 and 1927
- 1928, 1929, 1930 and 1931
- 1932.

VEGETABLE WEEVIL

Known distribution in Gulf Region to Dec. 31, 1932.

Black dots indicate new records in 1932.



The new counties recorded this year are as follows: Texas: Harrison, Louisiana: Caddo, Red River, De Soto, Bossier, Webster, Claiborne, Bienville, Jackson, Lincoln, Union, Moorehouse, Ouachita, Caldwell, Winn, Grant, Natchitoches, Sabine, and Vernon. Arkansas: Ashley, Chicot. Mississippi: Winston, Webster, Chickasaw, Calhoun, Pontotoc, Panola, Tallahatchie, Lafayette, and Lee. Alabama: Chambers, Macon, Russell, Barbour, Dale, Pike, Houston, Butler, Monroe, Hale, Perry, Autauga, Lowndes, Montgomery, Elmore, Chilton, Bibb, and Shelby. Georgia: Early, Troup, Fulton, and Musco. Florida: Washington, Bay, and Calhoun.

BANDED CUCUMBER BEETLE

During February reports of damage by the banded cucumber beetle (Diabrotica balteata Lec.) to potatoes, turnips, beans, cabbage, and English peas were received from the entire Gulf coast, from Louisiana to Florida. In Florida the damage was said to be quite severe at some points. The insect was reported as having been active throughout the winter. Later in the season it did damage to sweetpotatoes, corn, and other truck crops. This beetle is apparently extending its range of destructive abundance along the Atlantic seaboard. This year fall plantings of snap beans, squash, and cucumbers, in the Charleston district of South Carolina, were severely damaged.

"SWEETPOTATO WEEVIL"

The sweetpotato weevil has been found in the southeasternmost corner in the State of Georgia, many miles north of the generally infested area in Florida. It is now known to be distributed over the southeastern quarter of Texas, through the southern third of Louisiana, and in the Gulf counties of Mississippi, to the southwesternmost county of Alabama. East of this the insect is only established in the peninsula of Florida and in the aforesaid corner of the State of Georgia. There are previous records of the occurrence of this insect in northeastern Texas, southern Oklahoma, northern Louisiana, and isolated localities in Tennessee. These infestations have, however, apparently disappeared.

PEPPER WEEVIL 1

The infestation by the pepper weevil (Anthonomus eugenii Cano) was light and very little damage was caused in southern California during the year. In New Mexico, on the other hand, the infestation was the heaviest since 1926 and possibly even greater than that year; 30 per cent of the crop was destroyed in the Mesilla Valley with heavy damage around Albuquerque. The insect was also numerous north of Las Cruces.

HARLEQUIN BUG

The harlequin bug (Murgantia histrionica Hahn) was more or less active all winter as far north as the Norfolk district of Virginia and as the season advanced it became destructively abundant in Maryland and West Virginia. By the end of the season it appeared in destructive numbers as far north as central Ohio, central Indiana, central Illinois, and southern Iowa--all points considerably north of its normal habitat.

1 R. E. Campbell, Bureau of Entomology, U.S.D.A.

FALSE CHINCH BUG

The mild, dry weather along the Atlantic seaboard, from North Carolina to Georgia and around the Gulf to Mississippi, resulted in what appeared to be an unprecedented outbreak of the false chinch bug (Nysius ericae Schill.). The insect very severely injured many winter truck crops, particularly mustard, turnip, carrot, cabbage, and lettuce.

PICKLE WORM

The pickle worm (Diaphania nitidalis Stoll) continued during 1932 to be seriously abundant somewhat north of its normal range, the mild winter apparently having favored the continuance of this insect in the north. Severe damage was reported from the eastern part of the Gulf region and up the Atlantic seaboard to North Carolina. No unusual conditions, however, were reported from Florida and the western Gulf section of Louisiana and Texas. Damage was also reported as unusually prevalent in Arkansas.

CABBAGE INSECTS

Several of the major lepidopterous pests of crucifers, including the imported cabbage worm (Ascia rapae L.), the cabbage looper (Autographa brassicae Riley), the cabbage webworm (Hellula undalis Fab.), the cabbage aphid (Brevicoryne brassicae L.), and the diamond-back moth (Plutella maculipennis Curt.), continued to work throughout the winter in the winter truck-crop sections from Virginia southward to Georgia, and around the Gulf to Texas, resulting in very serious damage in many sections.

TOMATO PIN WORM

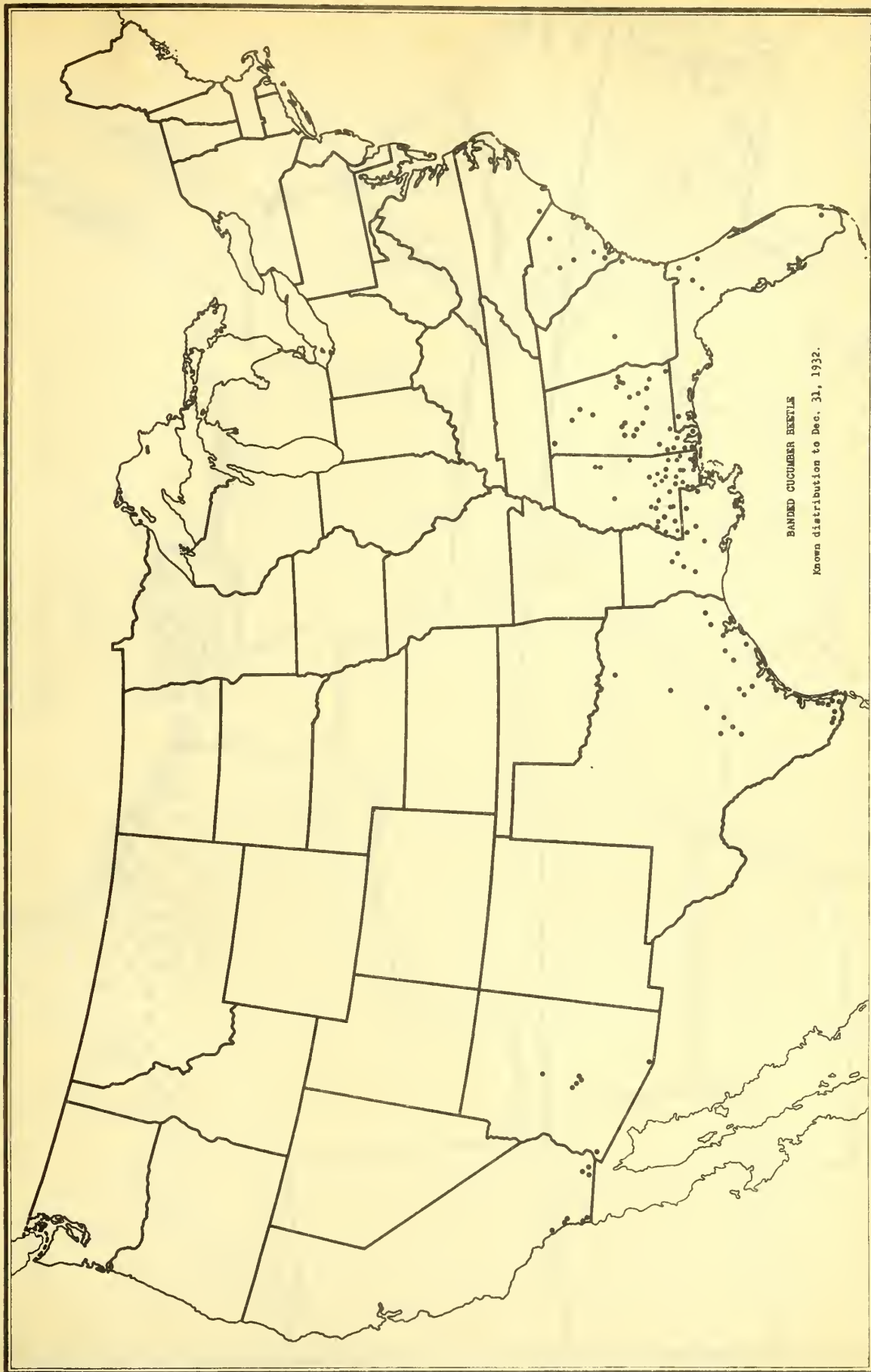
The tomato pin worm (Gnorimoschema lycopersicella Busck) was reported for the first time last year east of the Rocky Mountains, occurring in numbers that year in southern Pennsylvania. This year the insect was positively identified from Florida where it caused considerable trouble to tomato growing about Bradentown. In California this year it was very abundant over most of 4,000 acres of tomatoes in Orange County. In many fields there was a loss of 50 per cent of the crop, while in one field the loss ran to 80 per cent.

PEA APHID

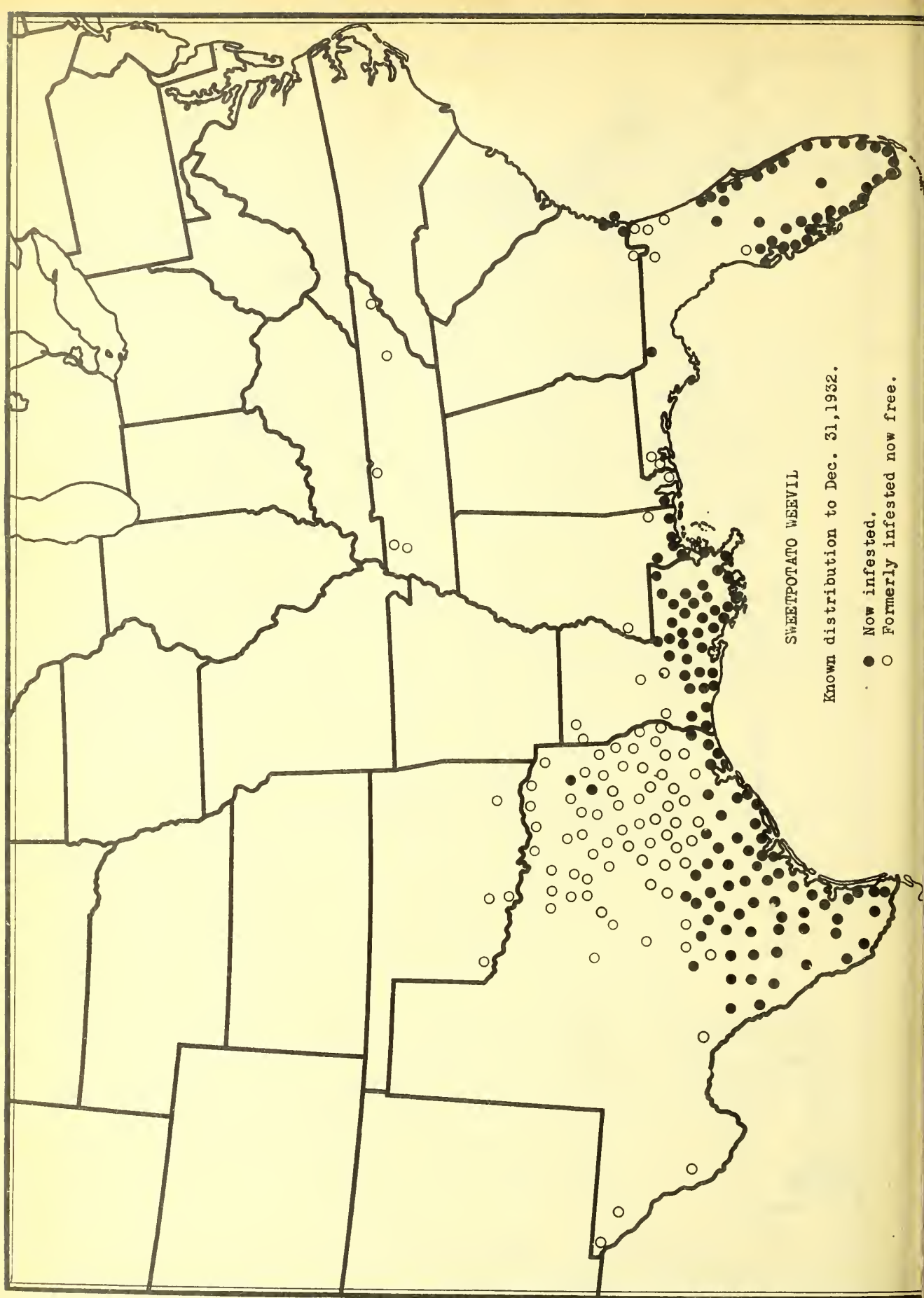
During March the pea aphid (Illinoia pisi Kalt.) was reported as very numerous on Austrian, English, and garden peas from Alabama to Arizona. During May it occurred in outbreak numbers in the North Central States from Pennsylvania westward to Ohio, and southward to the Gulf, most of the infestations having been recorded from alfalfa. By June this insect was making decided inroads on the cannery pea crop in Ohio, Michigan, and Wisconsin, and the late pea crop in the latter State was totally destroyed.

BOLL WEEVIL

The very mild winter of 1931-32 permitted the boll weevil (Anthonomus grandis Boh.) to remain active throughout the usual hibernating period in many sections of the South, with the result that successful wintering of a very large population, in fact the greatest recorded in the past 17 years, resulted. The long-time average survival of this insect in hibernation cages is



BANDED CUCUMBER BEETLES
Known distribution to Dec. 31, 1932.



SWEETPOTATO WEEVIL

Known distribution to Dec. 31, 1932.

- Now infested.
- Formerly infested now free.

approximately 1 per cent whereas last year the survival ran from 4 to above 13 per cent. The spring and early summer continued favorable for the weevil and the early-crop cotton was very seriously damaged during July. The reduction of some 25 per cent reported in the August 1 crop report was ascribed very largely to this heavy weevil population and the reduced use of insecticides due to the financial situation. Hot, dry weather during August very materially relieved the situation by killing a large proportion of the weevils in the squares. In western Texas and western Oklahoma weevil populations were extremely low and weather conditions favorable for cotton.

PINK BOLL WORM

Inspection of gin trash during the late summer and fall, using the gin-trash machine, indicated that the infestation of the pink boll worm (Pectinophora gossypiella Saund.) in the Big Bend district of Texas was the heaviest in the history of the infestation in that area. This was further complicated by two severe floods which washed away a large amount of possibly infested material. Inspection of flood debris has indicated that large numbers of worms are in this material. During June the insect was discovered in wild cotton in southern Florida. A survey disclosed that this infestation extended from Lake Worth in Palm Beach County southward to the Florida Keys and well out on these keys, thence half way up the west coast to Manatee County. This territory, however, is not within the commercial cotton-growing areas and was widely separated from the eastern Cotton Belt. Late in the fall a light infestation was found at three points in northern Florida in Alachua and Columbia Counties, the first time that this insect has been recorded in the eastern Cotton Belt.

SUGARCANE BORER

The sugarcane borer (Diatraea saccharalis Fab.) remained active throughout the winter of 1931-32. The cold weather of March materially checked the insect, however, by killing a large part of the sugarcane tops in Louisiana, and in consequence much less damage than usual was done this year. Large numbers of two South American parasites of this insect, Paratheresia claripalpis V. d. W. and Ipoobracon rimac Wolcott, were liberated in the Gulf region during the year. A late fall survey of the area in Louisiana devoted to sugarcane showed that sugarcane borer damage ranged on the whole from 5 to 100 per cent of the stalks infested. Toward the northern limits of the infested area the infestation went as low as 2 per cent. The joint infestation was not excessive, even in fields where all the stalks were infested.

BROWN SUGARCANE ROOT WEEVIL

The brown sugarcane root weevil (Anacetrinus subnudus Buchanan) was described this year. 1 An insect now identified as this species was first observed in 1910 at Berwick, La. It was collected in 1912 on sugarcane stubble at New Orleans, and again in 1919. In 1925 it was found damaging sugarcane by boring into the woody part of the plant. Similar damage was observed in 1929 and 1930 in Louisiana. In 1931 a first-year's stubble field near Arnaudville, La., was almost totally ruined by this insect. In the spring of this year a large number of buds were killed by this weevil, but in general it was not so abundant as it was last year.

PERIODICAL CICADA

Brood VI of the periodical cicada (Magicicada septendecim L.) is an unimportant scattering one, although it covers a wider territory than any of the other 17-year broods. For the most part the brood is recognized by the appearance of a few individuals. As in previous years, rather strong broods appeared in the extreme northwestern part of its range in Wisconsin, and in the extreme southeastern part of its range in the Carolinas. Strange to say the strong broods reported in northern Michigan in 1898 are not recorded as having appeared in 1915 or this year. In fact, the insect was not even observed in that State. The following list gives the States and counties in which Brood VI appeared this year:

Delaware, Sussex.

Georgia, Hambersham, Pike, Rabun, Stephens.

Illinois, Mason, Morgan, Vermilion.

Indiana, Lawrence, Steuben;

Kentucky, Breathitt, Crittenden, Elliot, Gallatin, Grant, Letcher, Livingston, Kenton, Madison.

Maryland, Frederick, Montgomery, Prince Georges.

Missouri, Boone, Linn.

North Carolina, Buncombe, Burke, Caldwell, Catawba, Henderson, Macon, McDowell, Polk, Wake.

Ohio, Allen, Auglaize, Paulding, Richland, Van Wert.

Oklahoma, Payne.

Pennsylvania, Adams, Carbon, Dauphin, Franklin, Juniata, Luzerne, Lycoming, Monroe, Montgomery, Northampton, Westmoreland, York.

South Carolina, Greenville, Oconee, Pickens.

Virginia, Arlington, Fairfax, Loudoun, Powhatan.

West Virginia, Hampshire.

Wisconsin, Door, Vernon.

WALKINGSTICKS

During September a very heavy infestation of forest trees by walkingsticks caused severe defoliation in limited areas in southern Pennsylvania. During October a similar outbreak was reported from Ohio.

JAPANESE BEETLE

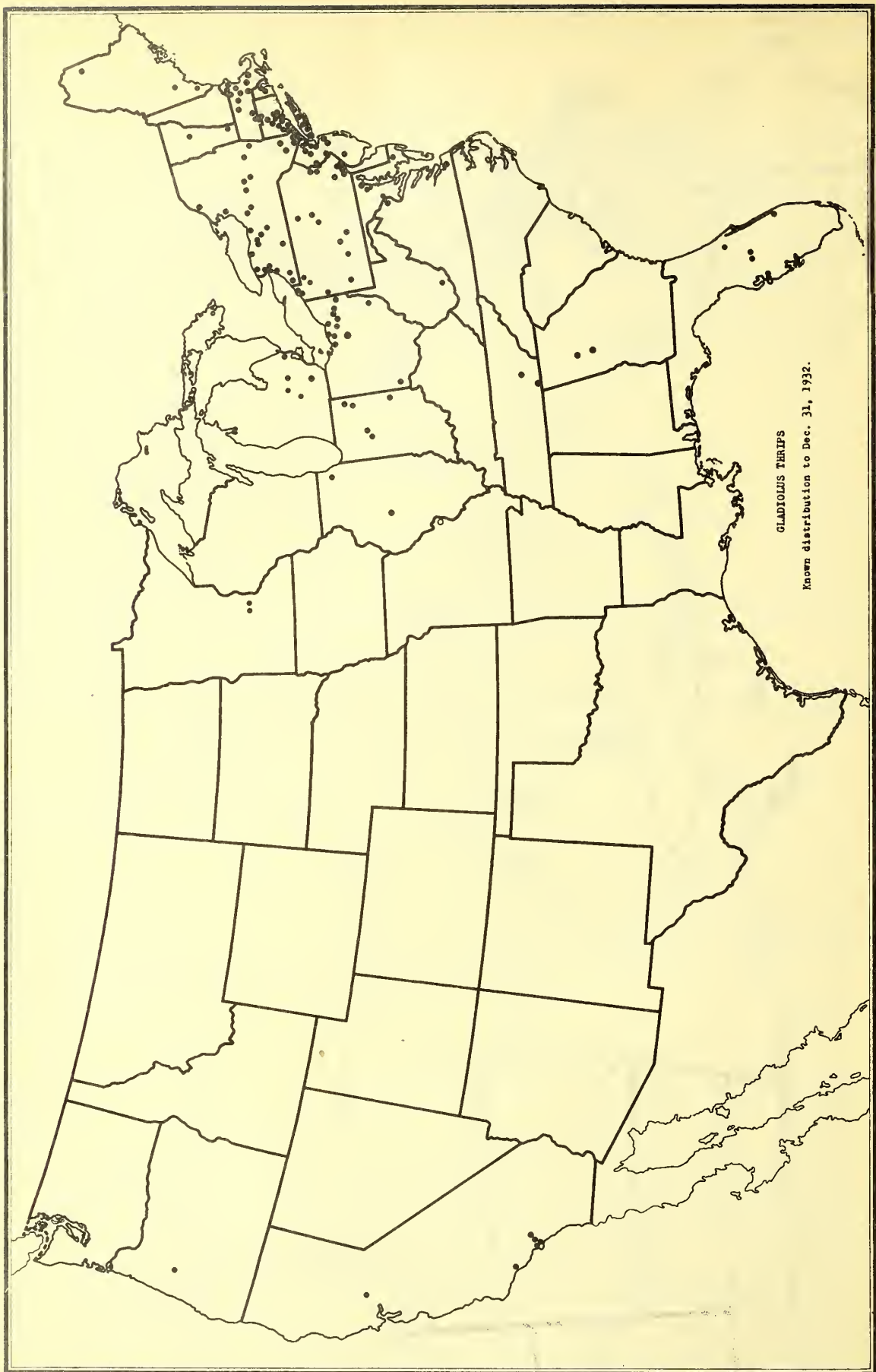
The area of continuous infestation by the Japanese beetle (Popillia japonica Newm.) is estimated to cover approximately 7,000 square miles and includes practically all of New Jersey except the northern counties, the five counties west of the Delaware River in Pennsylvania, and northern Delaware south to Port Penn, with areas of infestation in New York, Connecticut, Rhode Island, Massachusetts, Maryland, Virginia, and the District of Columbia. Traps placed this summer outside of the area already quarantined resulted in the discovery of infestations at several points outside of the previously regulated area. Among these were Augusta and Portland, Me.; Concord, Dover, Keene, Manchester, Portsmouth, and West Lebanon, N.H.; Bellows Falls, Brattleboro, and White River Junction, Vt.; Canton, Cleveland, Steubenville, and Zanesville, Ohio; Detroit, Mich.; Charles Town, Martinsburg, and Wheeling, W. Va.; Durham, Raleigh, and Winston-Salem, N.C. and Florence, S.C. This insect appears to be decreasing in numbers and damage in the areas longest infested.



PERIODICAL CICADA

Recorded distribution of Brood VI
up to and including its appearance
in 1932.

Black dots indicate 1932 records.



GLADIOLUS TERIPS
Known distribution to Dec. 31, 1932.

ELM LEAF BEETLE

The elm leaf beetle (Galerucella xanthomelaena Schr.), which increased to troublesome numbers in 1931, continued as a serious pest during 1932. In Massachusetts thousands of elm trees were seriously damaged. In Connecticut, although it did considerable damage in many towns and necessitated spraying, it was not so numerous as it was in 1931. Similar reports of serious damage were received from the southern third of Maine. In New Hampshire, although present in noticeable numbers, it was not so serious as last year. It was also present in troublesome numbers in Vermont. The conditions that prevailed in New England extended over the lower Hudson River Valley in New York. The insect was also reported in outbreak numbers throughout southeastern Maryland, south and east of Baltimore City and into Delaware. It appeared in destructive numbers in a number of cities and towns throughout western and southwestern Ohio and reports of lesser defoliation were received from scattered localities in Kansas, Kentucky, and Tennessee. On the Pacific Coast this pest was quite injurious to elms in the Yosemite Valley of California, in the Willamette Valley in Oregon, in the Yakima Valley of Washington, and around Parma in Canyon County, Idaho. The Federal parasite laboratory at Melrose Highlands, Mass., received a large shipment of the egg parasite Tetrastichus xanthomelaenae Rond. from Budapest, Hungary, this year.

GYPSY MOTH AND BROWN-TAIL MOTH

The first gypsy moth (Porthetria dispar L.) egg clusters observed hatching this year were seen on May 2. Hatching became general about May 9 and the maximum hatch occurred about the middle of the month. Up to the end of May 67 infested sites, with an aggregate of 885 egg clusters, were found in the barrier zone, the western-most point of which was 15 miles east of the New York State line in Connecticut. During the year over 40,000 acres were entirely defoliated and nearly 11,000 acres practically defoliated. No moths have been found this year in the area formerly infested in New Jersey where an eradication campaign was started ten years ago, nor has the insect been seen in this area since 1929. The moth was discovered late in July in northeastern Pennsylvania in an outlying mountain district near Pittston, Luzerne County. The infestation is now known to exist in eight townships; Pittston, Jenkins, Plains, Bear Creek, Wilkes-Barre, Kingston, and Exeter, in Luzerne County; and Lackawanna in Lackawanna County.

During 1930 a fungous disease, Entomophthora ulicae Reich., of the brown-tail moth (Nygmia phaeorrhoea Don.) became epidemic in heavily infested orchards in parts of New Hampshire and Maine. In 1931 the disease was not so prevalent as in 1930 and this year we received reports of a general increase of the insect in Maine.

SATIN MOTH

During the past year the towns of Woodstock and Lincoln, N. H., north of the quarantine line, have been found infested by the satin moth (Stilpnotia salicis L.). Within the infested territory severe defoliation was recorded as far north as Waterville, Bath, Brunswick, and Bangor, Maine, and Wakefield and Wolfeboro, N. H. There was some severe defoliation in

seven towns in Massachusetts. Throughout the remainder of the infested territory the defoliation was much less severe than in previous years.

EASTERN TENT CATERPILLAR

Early in the spring generally heavy infestations by the eastern tent caterpillar (Malacosoma americana Fab.) were reported in Maine as far north as Augusta, in southern New Hampshire and Vermont, in eastern Massachusetts, through Connecticut to southern New York in the Hudson River Valley and on Long Island, in southeastern Pennsylvania, in Delaware, and from the coastal plain section of Maryland and Virginia to central Georgia. For the most part these did not prove very serious as the season advanced, although there was considerable defoliation in limited localities. In eastern Texas (Brazos County), where it was defoliating red haw, this insect was reported during March as more abundant than it had been observed in many years. This insect, associated with the forest tent caterpillar. (M. disstria Hbn.), appeared in severe outbreak numbers near Sioux City, Iowa, and the latter insect occurred in one of the heaviest outbreaks yet recorded in Maine, several square miles of forest area having been seriously defoliated in the southwestern counties.

BAGWORM

The bagworm (Thyridopteryx epheneraeformis Haw.) was very abundant and destructive during the past summer in the Ohio and Mississippi Valley regions, reports of serious defoliation having come from central and southwestern Ohio, the southern half of Indiana and Illinois, central and eastern Kentucky, and southward to northwestern Alabama, and most of the State of Mississippi to the eastern third of Texas, the southernmost point being in Galveston County. The insect was also reported from Maryland, Delaware, New Jersey, and southeastern Pennsylvania northward to the vicinity of New York City. In the West Central States the insect was reported from southeastern Nebraska and southern Minnesota; this section is north of the usual range and the occurrence of this insect there from time to time is probably correlated with mild winters.

TERMITES 1

During the calendar year 1932, 1,568 cases of termite (Reticulitermes spp.) injury to buildings were reported to the Federal Bureau. These were regionally and chronologically distributed as follows:

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	
New Eng.	2	2	2	5	2	5	5	4		3			30
Mid. Atl.	13	27	65	90	79	65	39	40	27	24	25	22	516
So. Atl.	10	26	38	55	53	34	23	29	14	21	9	19	331
E. Cent.	10	6	18	33	22	16	9	12	7	5	8	6	152
N. Cent.		1			9	1	2	1	3		2	3	22
W. Cent.	4	3	4	20	15	21	11	9	16	14	12	12	141
L. Miss.	29	14	15	46	43	29	38	29	11	10	1	6	271
S. W.		1	12			1	2		11	12	4	3	46
Pacif.	6	7	5	7	10	2	5	5	5	4	2	1	59
Total	74	87	159	256	233	174	134	129	94	93	63	72	1,568

NEW AND LITTLE KNOWN PESTS

The cherry sawfly leaf miner (Profenusa collaris MacG.) was discovered for the first time in Michigan at Grand Rapids, where it was attacking murello cherries. This insect has heretofore been recorded only from New York and Massachusetts. It was first observed in 1910 damaging cherries at Geneva, Germantown, and Schenectady, N. Y. In 1914 MacGillivray described it as a new species. It has continued to be a minor pest in New York State since that time, attacking, in addition to cherries, ornamental hawthorns. In 1915 Rohwer described a parasite of this insect as Pezoporus tenthredinarum.

The leaf-curling apple midge (Dasyneura mali Kieff.) has apparently established itself at Ipswich, Mass. This is a European insect which apparently has not previously been recorded from this country.

The European moth Cnephasia longana Hav., which was discovered in this country for the first time in 1929 as a pest of strawberry and iris in Oregon, became quite serious this year in the State of Washington, where it was attacking, in addition to strawberries, a number of plants, particularly the blossoms of bulbous iris.

During the year the tenebrionid beetle Crypticus obsoletus Say¹ was found injuring strawberries at Long Beach, Miss. The insects were attacking the immature fruit and also feeding on ripe fruit. This appears to be the first record of this insect attacking any economic crops, although it is an old species and a native of the southeastern part of the United States.

The Pacific red spider (Tetranychus pacificus MacG.), heretofore known only from San Joaquin and Stanislaus Counties in California, where it is a serious pest of European grapes, extended its range to vineyards in Fresno, Tulare, and Kern Counties.

A common European weevil, Hypera rumicis L., known to attack rhubarb and several species of dock (Rumex spp.), is well distributed in this country, specimens in the National Museum having been collected from Connecticut, New York, New Jersey, Iowa, North Dakota, Kansas, and Oregon, as well as from Alberta, Canada. In the United States, however, it had not been reported as a pest until this year when it was found seriously damaging sorrel (Rumex acetosella) by feeding on the leaves and blossoms at Milford, Conn. This sorrel was being grown for seed, the crop being grown as a garden crop by European gardeners in that State.

A weevil, Ceutorhynchus tau Lec., was described from Texas in 1876. The insect was unheard of from that date to this year, when the larvae were found infesting seedling onions near Robstown, Tex., ruining a 50-acre plantation. It was also found at Raymondsville and Schuttenberg in the same State, attacking both onion and garlic.²

1 M. M. High, U. S. D. A., Bureau of Entomology
2 Journal of Economic Entomology 25: 1110, 1932.

A weevil, Pseudocneorrhinus setosus Roelfs, a native of Japan, was first collected in North America, so far as our records show, on August 3, 1914, in a nursery at Riverton, N. J. In 1920 this species was found in a nursery in New Haven, Conn., where it was feeding on burr marigold (Bidens sp.). It was again collected in New Haven in 1921, 1922, and 1923. In 1931 it completely stripped a hedge of California privet and a row of Japanese barberry bushes in that city, and this year did considerable damage to these plants.

The white spruce sawfly (Diprion polytomum Htg.), which caused rather severe defoliation of white spruce in the Gaspé peninsula of Canada for the past three or four years, was discovered at Bar Harbor, Maine, this year.

MOSQUITOES

An unprecedented outbreak of the mosquito Psorophora columbiae D. & K. occurred during September in the Everglades section of Dade County, Fla. On September 4, following a northwest wind which blew for several days, enormous numbers of these large mosquitoes were observed. By the 5th they had increased to unprecedented numbers, and by evening of that day the buzzing was as loud as that of a swarm of bees. During the night livestock could be heard running and thrashing in the underbrush, and on the morning of September 6, dead animals were found throughout the section. The recorded mortality was 80 head of cattle, 3 horses, 1 mule, 67 hogs, 20 chickens, and 2 dogs. Post-mortem examinations showed no mosquitoes in the respiratory apparatus, indicating that the animals died either from loss of blood, nervous exhaustion, or the effects of some toxin. It was officially reported that the milk supply from this district (Hialeah) was reduced to 1,000 gallons a day during the four days of the mosquito infestation.

ROCKY MOUNTAIN SPOTTED FEVER TICK AND BLACK WIDOW

The very serious tick-borne disease, Rocky Mountain spotted fever, heretofore confined to certain Rocky Mountain valleys in the Northwest, was found to be very prevalent in parts of Maryland and Virginia. By the middle of August 41 cases had been reported from this region. In this same region the black widow spider, (Lathrodectes mactans Fab.), one of the more poisonous forms, the bite of which is often associated with serious results, was extremely numerous during the past summer.

SUMMARY OF INSECT CONDITIONS IN HAWAII FOR 1932

O. H. Swezey

The pink sugarcane mealybug (Trionymus sacchari Ckll.) has become scarcer in the fields, owing to the establishment and wide spread of the introduced parasite Anagyrus saccharicola Timb. from the Philippines. The parasite has been found generally established throughout the cane districts.

The Chinese grasshopper (Oxya chinensis Thumb.) continues to spread, and is found more widely attacking cane on the islands of Maui and Hawaii, although it is usually not severely injurious. The egg-parasite Scelio pambertoni Timb., introduced from the Federated Malay States, has been widely colonized and has been recovered in two districts, which indicates that it has become established and will no doubt eventually check further increase of this grasshopper.

The grubs of the Asiatic beetle (Anomala orientalis Waterh.) continue injurious on one plantation in the infested area. The seriously infested area in this plantation is somewhat larger than in the previous year. That the plantation has not suffered particularly is evidenced by the fact that it produced more tons of sugar this year than in any previous year. Scolia manilae Ashm., the introduced Philippine wasp, is enormously numerous in the cane fields, and its control of the root grub is sufficient to keep the latter from being disastrously destructive in this plantation.

There were extensive outbreaks of armyworms (Cirphis unipuncta Haw. and Spodoptera mauritia Boisd.) in sugar plantations in several localities in the early part of the year. The numerous introduced parasites were not able to control them fully, and artificial methods of control were practiced.

The sugarcane weevil borer (Rhabdocnemis obscura Boisd.) continues significantly injurious in some localities but in general is well controlled by the introduced New Guinea tachinid Ceromasia sphenophori Vill. Where the variety P.O.J. 36 has replaced other varieties there has been a lessening of borer damage, as there has also been where there has been better control of rats in the fields.

The sugarcane leafhopper (Perkinsiella saccharicida Kirk.) has remained under satisfactory control by its introduced natural enemies. No outbreaks of any consequence were known of; in fact, the pest was so scarce everywhere as to be difficult to find.

The rice borer (Chilo, Simolox Butl.) has not given particular trouble this year, and about normal rice crop was produced.

The souring beetle (Carpophilus humeralis Fab.) has increased enormously, owing to the fact that the output of the pineapple canneries was limited; and on account of this much fruit was left to rot in the fields, furnishing opportunity for this beetle to increase to a much greater extent than usual. In a pineapple field plowed up and planted to sugarcane the beetles were so numerous as to do considerable damage to the planted cane, destroying the "eyes" and also boring into the ends of the "seed" cuttings.

The pineapple mealybug (Pseudococcus brevipes Ckll.) is found more frequently in cane fields than formerly, though it is not to be considered of particular importance. It continues as an important pest in pineapple fields, where cultural practices and spraying methods have been perfected for its control.

The avocado mealybug (Pseudococcus nipae Mask.) was nowhere observed during the year, either on avocado, fig, or mulberry, which were always so thoroughly infested before the introduction of the parasite Pseudaphycus utilis Timb. from Mexico in 1922.

The Mediterranean fruit fly (Ceratitis capitata Wied.) has been about as prevalent as for the past few years. If anything, the infestation of mangoes and guavas has been a little less, and coffee is particularly free from infestation.

The coconut leafroller (Omiodes blackburni Butl.) has been sufficiently controlled by its parasites in Honolulu and vicinity so that the coconut trees have a fine appearance with perfect leaves. On the windward side of the island, however, the coconut leaves are very ragged, owing to ravages of the caterpillars, probably because their parasites are not working so favorably there. On the islands of Kauai and Maui, too, the coconut leaves are badly infested.

The corn ear worm (Heliothis obsoleta Fab.) has been unusually prevalent. Nearly every ear of sweet corn is found attacked by one or more caterpillars.

A mirid bug, Engytatus geniculatus Reut., is always present on tomato vines. It is reputed to destroy some of the flower buds, thus lessening the crop.

The tomato pin worm (Gnorimoschema lycopersicella Busck) is usually present on tomato leaves, but not to cause particular injury.

The potato tuber moth (Gnorimoschema operculella Zell.) is becoming of more importance as a pest on the potato tubers. It has been present for a long time, but operated chiefly as a leaf miner on potato, tomato, tobacco, Datura, etc.

The taro leafhopper (Megamelus proserpina Kirk.) was not to be found this year in the Waianae district, where taro was found badly infested the previous year. At that time (the first appearance of this insect in Hawaii) efforts were made to eradicate it and apparently success was attained.

The melon fly (Bactrocera cucurbitae Coq.), although prevalent, must have been fairly well controlled by its parasite Opius fletcheri Silv., for an unusually good crop of melons was produced and the season was quite prolonged.

The rose beetle (Adoretus sinicus Burn.) has been prevalent as usual as a garden pest. Although *Scolia* wasps parasitize its grubs, yet no apparent control is attained. Efforts are being made to introduce additional parasites. Many hundreds of cocoons of Tiphia lucida Ashm. have been received from the Philippines. The wasps are slow about developing,

and issue irregularly. Not enough have yet issued and been released to assure its becoming established.

The gladiolus thrips (Taeniothrips gladioli M. & S.) first came to the attention of the entomologists in Hawaii in November. In the florists' gardens in several parts of Honolulu the infestation was so severe as to ruin the entire crop of gladiolus. Examination in other districts showed this thrips to be widespread already, although not all gardens were infested. Immediate investigations on Maui and Hawaii revealed the pest to be present there also.

The first positive evidence that the oxwarble fly Hypoderma lineatum DeVill. is established in Hawaii was obtained in November, when the entomologists' attention was called to perforated hides freshly removed from cattle at the slaughter-house in Honolulu. The cattle were from a large ranch on the island of Hawaii, and were said to be island-born. Many times warbles have been found in the backs of imported dairy cows and breeding stock, and they were treated for removal of warbles. The men at the slaughter-house said that they had previously found perforations in hides, and also the warbles, but at this time they were more numerous than they had ever seen then. Sometimes there were as many as 10 or more in a single hide.

The horn fly (Haematobia irritans L.) continues to be a very troublesome pest on the cattle of the ranches as well as on dairy cows. It breeds continuously the year round and is abundant at all times.

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	5	209-210
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Aphis gossypii Glov. - - - - -	3	121
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Aphis illinoisensis Shimer - - - - -	3	121
Aphis maidis Fitch - - - - -	1	12
	2	47-48
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Aphis medicaginis Koch - - - - -	2	57
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Aphis pomi DeG. - - - - -	1	15
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	6	260
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Aphis rociadae Ckll. - - - - -	4	178
Aphis rumicis L. - - - - -	5	225
Aphis sambucifoliae Fitch - - - - -	2	67
Aphis spiraeicola Patch - - - - -	1	19
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	5	218
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Bemisia inconspicua Quaint. - - - - -	6	279
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Brachyrhinus sulcatus Fab. - - - - -	2	71
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Bryobia praetiosa Koch - - - - -	2	73
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Bucculatrix canadensisella Chamb. - - - - -	6	282
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Byturus unicolor Say - - - - -	1	19
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	4	153
	5	215
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	4	144
	5	209
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Calendra chittendeni Blatch. - - - - -	1	14
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Ceromasia sphenophori Vill. - - - - -	10	429
Ceroplastes cirripediformis Comst. - - - - -	2	67
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<i>Chalepus dorsalis</i> Thunb. - - - - -	8	374
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<i>Chermes abietis</i> L. - - - - -	3	114
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<i>Chermes pinicorticis</i> Fitch. See		
<i>Pineus strobi</i> Htg.		
<i>Chermes strobilobius</i> Kalt. - - - - -	4	172
<i>Chilo simplex</i> Butl. - - - - -	10	429
<i>Chionaspis americana</i> Johns. - - - - -	3	112
<i>Chionaspis euonymi</i> Comst. - - - - -	3	116
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<i>Chionaspis pinifoliae</i> Fitch - - - - -	2	70
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<i>Chionaspis pinifoliae heterophyllae</i> Cooley -	2	70
<i>Chirida guttata</i> Oliv. - - - - -	6	279
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<i>Chlorochroa sayi</i> Stal - - - - -	6	255
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<i>Chorizagrotis auxiliaris</i> Grote - - - - -	3	83
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<i>Chortophaga virdifasciata</i> DeG. - - - - -	2	43-44
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<i>Chromon repentinus</i> Rehn - - - - -	4	188
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<i>Chrysobothris femorata</i> Oliv. - - - - -	1	17
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<i>Chrysocharis parksi</i> Cwfd. - - - - -	4	186
<i>Chrysomela scripta</i> Fab. - - - - -	5	240
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<i>Chrysomphalus aurentii</i> Mask. - - - - -	2	42, 56
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<i>Chrysomphalus dictyospermi</i> Morg. - - - - -	9	408, 414
<i>Chrysomphalus obscurus</i> Comst. - - - - -	1	30
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<i>Chrysomphalus tenebricosus</i> Comst. - - - - -	1	29
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<i>Cicadella pardalina</i> Fowl. - - - - -	9	412
<i>Cicadella sirena</i> Stal. - - - - -	9	407
<i>Cicadellidae</i> - - - - -	2	52
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	4	146
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<i>Cleonus frontalis</i> Lec. - - - - -	2	75
<i>Cnephassa longana</i> Haw. - - - - -	10	427
<i>Cnidocampa flavescens</i> Walk. - - - - -	1	29
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<i>Coccinella</i> sp. - - - - -	4	139
<i>Coccophagus Murneyi</i> Comp. - - - - -	8	361
<i>Coccus hesperidum</i> L. - - - - -	1	20
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<i>Coccus mangiferae</i> Green - - - - -	7	341
<i>Coccus pseudomagnoliarum</i> Kuw. - - - - -	7	313
<i>Coccus viridis</i> Green - - - - -	4	188
<i>Cochliomyia macellaria</i> Fab. - - - - -	1	34
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<i>Colaspis brunnea</i> Fab. - - - - -	5	204
<i>Colaspis prasina</i> Jacoby - - - - -	9	411
<i>Coleophora caryacoliella</i> Clem. - - - - -	3	100
<i>Coleophora laricella</i> Hbn. - - - - -	2	68
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<i>Coleophora malivorella</i> Riley - - - - -	4	144
<i>Coleophora salmani</i> Heinr. - - - - -	2	67
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<i>Coleophora</i> sp. - - - - -	3	89
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<i>Collaria oleosa</i> Dist. - - - - -	9	405
<i>Colopha ulmicolor</i> Fitch - - - - -	5	236
<i>Colpoctera maculifrons</i> Muir - - - - -	9	408
<i>Conoderus bifoveatus</i> Beauv. - - - - -	9	408
<i>Conophthorus coniperda</i> Schwarz - - - - -	8	375
<i>Conotrachelus anaglypticus</i> Say - - - - -	3	96
<i>Conotrachelus crataegi</i> Walsh - - - - -	6	263

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	3	80,95-96
	4	128,150-151
	5	212-213
	6	262
	7	311
	8	343,358-359
	9	388
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Contarinia virginiana Felt - - - - -	5	214
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Coreocoris batatas Fab. - - - - -	1	37
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Corthylus punctatissimus Zimm. - - - - -	4	179
Corythiaca planaris Uhler - - - - -	3	122
Corythucha ciliata Say - - - - -	3	114
	8	376
Corythucha cydoniae Fitch - - - - -	7	311
Corythucha gossypii Fab. - - - - -	2	76
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Corythucha pallida ulmi O. & D. - - - - -	7	328
	8	373
Corythucha salicata Gibson - - - - -	4	175
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Cryptococcus fagi Baer - - - - -	1	29
	8	345
	9	397
Cryptolaemus montrouzieri Muls. - - - - -	8	361
Cryptorhynchus lapathi L. - - - - -	1	31
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<i>Cryptotermes brevis</i> Walk. - - - - -	4	188
<i>Ctenocephalides felis</i> Bouche - - - - -	7	334
<i>Ctenocephalides</i> spp. - - - - -	7	334
<i>Culex quinquefasciatus</i> Say - - - - -	3	118
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<i>Culex</i> spp. - - - - -	1	32
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<i>Culex tarsalis</i> Coq. - - - - -	7	335
<i>Culicinae</i> - - - - -	3	117-118
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<i>Culicoides canithorax</i> Hoffm. - - - - -	3	118
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<i>Culicoides dovei</i> Hall - - - - -	7	335
<i>Culicoides melleus</i> Coq. - - - - -	7	335
<i>Culicoides</i> sp. - - - - -	4	181
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<i>Cylas formicarius</i> Fab. - - - - -	7	338
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<i>Cyllene robiniae</i> Forst. - - - - -	5	238
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<i>Cyrtopeltis varians</i> Dist. - - - - -	1	37
<i>Dactylosternum abdominale</i> Fab. - - - - -	9	408
<i>Daihinia brevipes</i> Hald. - - - - -	4	160
<i>Danaus menippe</i> Fab. - - - - -	2	46
<i>Dascillus plumbeus</i> Horn - - - - -	4	152
<i>Dasyneura mali</i> Kieff. - - - - -	5	189, 210-211
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<i>Dasyneura pyri</i> Bouche - - - - -	5	213
<i>Datana integerrima</i> G. & R. - - - - -	5	217
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<i>Datana ministra</i> Drury - - - - -	7	308
	8	371
<i>Deloyala clavata</i> Fab. - - - - -	5	222
<i>Dendroctonus frontalis</i> Zimm. - - - - -	6	287
	8	375
<i>Dendroctonus piceaperda</i> Hopk. - - - - -	8	376
	9	401
<i>Dendroctonus valens</i> Lec. - - - - -	3	114
<i>Dermacentor venustus</i> Bks. - - - - -	7	334
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<i>Dermanyssus gallinae</i> L. - - - - -	3	119
<i>Deromyia ternata</i> Loew - - - - -	7	337
<i>Desmia funeralis</i> Hon. - - - - -	6	264
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<i>Diabrotica balteata</i> Lec. - - - - -	1	21
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Diabrotica corusca Jacoby - - - - -	9	411
Diabrotica duodecimpunctata Fab. - - - - -	1	21
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Diabrotica graminea Baly - - - - -	3	122
Diabrotica soror L. - - - - -	2	60
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	6	268
Diabrotica speciosa Cram. - - - - -	7	342
Diabrotica theimei Baly - - - - -	9	411
Diabrotica trivittata Mann. - - - - -	7	322
Diabrotica vittata Fab. - - - - -	1	21
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	2	57
	3	101-102
	7	313
	8	343,361
	9	389
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	3	123
	6	277-278
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	8	368
	9	393
Diaphania nitidalis Stoll - - - - -	6	277
	7	322,342
	8	368
	9	393
	10	422
Diapheromera femorata Say - - - - -	1	8,28
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	8	344,371
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Diaprepes spengleri abbreviatus Oliv. - - - - -	4	185
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Diaprepes spengleri doublieri Guer. - - - - -	9	406
Diaprepes spengleri festivus Fab. - - - - -	9	406
Diarthronomyia hypogaea Loew - - - - -	4	178
Diaspis carueli Targ. - - - - -	7	329
Diaspis visci Schr. - - - - -	7	342
Diatraea crambidoides Grote - - - - -	6	257
	7	305
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Diatraea grandiosella Dyar - - - - -	9	385

<i>Diatraea saccharalis</i> Fab. - - - - -	1	7,13
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	3	87
	4	140
	7	341,342
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<i>Dichomeris marginellus</i> Fab. - - - - -	3	112
<i>Diestostemma rugicolle</i> Sign. - - - - -	9	411
<i>Dikraneura depressa</i> McA. - - - - -	9	406
<i>Dilachnus thujafolinus</i> Del G. - - - - -	3	115-116
<i>Diphadnus californicus</i> Marlatt - - - - -	3	98
<i>Diprion polytomum</i> Htg. - - - - -	2	42,66
	6	249
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<i>Diprion simile</i> Htg. - - - - -	3	113
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<i>Disonycha alternata</i> Ill. - - - - -	2	70
<i>Disonycha laevigata</i> Jacoby - - - - -	9	405
<i>Disonycha spilotrachelus</i> Blake - - - - -	9	408
<i>Dorytomus brevicollis</i> Lec. - - - - -	2	70
<i>Drasterius elegans</i> Lec. See <i>Aeolus amabilis</i> Lec.		
<i>Draconulacephala reticulata</i> Sign. - - - - -	2	64
<i>Dreyfusia picea</i> Ratz. - - - - -	1	29
	2	68
	4	172
	5	191,237
	6	284,285
	7	328
	8	373
	9	399
<i>Dryophanta radicola</i> Ashm. - - - - -	9	400
<i>Dyscinetus barbatus</i> Fab. - - - - -	4	185
	9	409
<i>Dyscinetus trachypygius</i> Burm. - - - - -	3	87
<i>Dysdercus fernaldi</i> Ballou - - - - -	7	341
<i>Dyslobus decoratus</i> Lec. - - - - -	3	109
<i>Dyslobus</i> sp. - - - - -	4	168
<i>Dyslobus ursinus</i> Horn - - - - -	2	65
<i>Echidnophaga gallinacea</i> Westw. - - - - -	2	74
	4	183
<i>Echinicerya anomala</i> Morr. - - - - -	9	414
<i>Elasmopalpus lignosellus</i> Zell. - - - - -	4	138
	5	203
	6	257
	7	305,319
	8	365
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<i>Elateridae</i> - - - - -	3	84-85
	4	134-135
	5	191
	8	344,348-349
<i>Eleodes hispilabris</i> Say - - - - -	4	135

Empoasca fabae Harr. - - - - -	3	104
	5	223
	6	271-272
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<i>Epitrix fuscula</i> Crotch - - - - -	4	158
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<i>Epitrix parvula</i> Fab. - - - - -	1	27
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<i>Eriophyes pini</i> Nal. - - - - -	5	239
<i>Eriophyes tenuis</i> Nal. - - - - -	3	87
<i>Eriophyes ulmi</i> Garm. - - - - -	6	284
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<i>Eriosoma lanigerum</i> Hausm. - - - - -	1	15-16
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<i>Eritettix simplex</i> Scudd. - - - - -	2	44
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<i>Euetheola rugiceps</i> Lec. - - - - -	2	49
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<i>Eumerus tuberculatus</i> Rond. - - - - -	6	291
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<i>Eusimulium pecuarum</i> Riley - - - - -	1	8,34
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<i>Eutettix tenellus</i> Bak. - - - - -	3	110
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<i>Euthochtha galeator</i> Fab. - - - - -	4	151
<i>Euxoa messoria</i> Harr. - - - - -	3	79,82-83
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<i>Exosoma pini</i> Schiff. - - - - -	6	262
<i>Faula brunneipennis</i> Bates - - - - -	9	411
<i>Fecelia minor</i> Voll. - - - - -	4	185
<i>Feltia ducens</i> Walk. - - - - -	4	133
<i>Feltia gladiaria</i> Morr. - - - - -	4	131,132
<i>Fenusa pumila</i> Klug - - - - -	5	235
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<i>Fidia viticida</i> Walsh - - - - -	5	215-216
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Melanoplus mexicanus Sauss.		
Melanoplus bivittatus Say - - - - -	2	43
	3	81
	4	130
	5	192, 193
	6	250
	7	298
	8	346
	9	382
Melanoplus differentialis Thos. - - - - -	2	43
	3	81, 82
	5	193, 194
	6	251
	7	297-298
	8	346
Melanoplus femoratus Burm. - - - - -	5	192
Melanoplus femur-rubrum DeG. - - - - -	1	9
	3	81
	5	193, 194
	7	299
	8	346
	9	382
Melanoplus mexicanus Sauss. - - - - -	2	44
	5	192, 193
	6	250, 251
	9	382
Melanoplus packardii Scudd. - - - - -	6	251
Melanoplus spp. - - - - -	2	44
	10	416
Melanotrichus concolor Kirsch - - - - -	8	344
Melanotus cribulosus Lec. - - - - -	6	253
Melanotus sp. - - - - -	4	134
Melipona ruficrus Latr. - - - - -	7	340
Melittia satyriniformis Hbn. - - - - -	8	368
	9	393-394
Meloe americanus Br. & Er. - - - - -	1	22
Meloe impressus Koy. - - - - -	6	268
Meloidae - - - - -	5	218-219
	6	247, 267-268
	7	296, 314-315
	8	343, 362
Membracidae - - - - -	2	51
Membracis mexicana Guer. - - - - -	7	339
	9	412-413
Meromyza americana Fitch - - - - -	6	247, 254-255
	7	303
	8	344
Mesocondyla concordalis Hbn. - - - - -	9	412
Mesolecanium planum Hempel - - - - -	7	342
Metriona bicolor Fab. - - - - -	5	229
Metriona bivittata Say - - - - -	6	278-279
	7	324
Metriona sp. - - - - -	7	323-324
Mezium americanum Lap. - - - - -	1	35

Miccotrogus picirostris Fab. See		
Tychius picirostris Fab.		
Microbracon thurberiphages Mues. - - - -	3	122
	4	186
Milichiella lacteipennis Loew - - - - -	9	405
Mindarus abietinus Koch - - - - -	5	237
Mineola indiginella Zell. - - - - -	8	378
Mineola juglandis LeB. - - - - -	7	313
Mineola scitulella Hulst - - - - -	8	359
Mocis disseverans Walk. - - - - -	9	408
Mollusca - - - - -	2	42, 61
Monanus concinnulus Walk. - - - - -	9	408
Monarthropalpus buxi Labou. - - - - -	4	177
Monecphora bicincta Say - - - - -	9	413
Monellia caryae Monell - - - - -	6	282
Monellia caryella Fitch - - - - -	6	282
Monellia nigropunctata Granovsky - - - - -	6	282
Monochamus titillator Fab. - - - - -	2	69
Monocrepidius vespertinus Fab. - - - - -	4	135
Monodes agrotina Guen. - - - - -	9	408
Mononychus vulpeculus Fab. - - - - -	5	242
Monophadnoides rubi Harr. - - - - -	4	153
	5	214
Monoptilota pergratialis Hulst - - - - -	8	365-366
Mordwilkoja vagabunda Walsh - - - - -	6	288
	7	330
Morellia scapulata Bigot - - - - -	9	406
Mormidea cubrosa Dallas - - - - -	9	405
Murgantia histrionica Hahn - - - - -	1	8, 25
	2	64
	3	107-108
	4	164-165
	5	226
	6	248, 276
	7	296, 321
	8	366-367
	9	381, 392
	10	421
Musca domestica L. - - - - -	7	334
Myelois ceratoniae Zell. - - - - -	9	407
Myzocallis alhambra Davidson - - - - -	6	282
Myzocallis discolor Monell - - - - -	4	173
	6	282
Myzocallis kahawaluokalani Kirk. - - - - -	8	378
Myzus cerasi Fab. - - - - -	3	98
	4	152
	5	213-214
Myzus persicae Sulz. - - - - -	3	105, 123
	4	176
	9	390
Myzus ribis L. - - - - -	3	99
	4	155
	5	216
	7	312

Nasutitermes morio Latr. - - - - -	4	188
Neleucania albilinea Hbn. - - - - -	6	256
Neoborus illitus Van D. - - - - -	3	112
Neoclytus caprea Say - - - - -	2	67
	3	112
Neodiprion abietis Harr. - - - - -	5	239
	8	373
Neodiprion edwardsii Nort. - - - - -	4	174
Neodiprion lecontei Fitch - - - - -	4	174
	6	287
	7	329
	8	375
Neodiprion pinetum Nort. - - - - -	7	329
Neolecanium cornuparvum Thro - - - - -	7	332
	8	379
	9	403
Nephelodes emmedonia Cram. - - - - -	4	131
Nepticula sericopeza Zell. - - - - -	5	238
Nessorhinus vulpes A. & S. - - - - -	9	408
Nezara viridula L. - - - - -	9	391, 405
Nicobium hirtum Ill. - - - - -	3	120
Noctuidae - - - - -	1	7, 10
	2	41, 44-45
	3	79, 82-83, 122
	4	127, 131-133
	5	195-196
	6	262
	10	416
Nodonota puncticollis Say - - - - -	5	242-243
	6	261
Nomophila noctuella D. & S. - - - - -	5	196
Notogonidea vinulenta Cres. - - - - -	9	407
Notolophus antiqua L. - - - - -	8	369
Nymia phaeorrhoea Don. - - - - -	10	425
Nysius angustatus Uhler - - - - -	9	390
Nysius californicus Stal - - - - -	9	389
Nysius ericae Schill. - - - - -	1	8, 22
	2	60-61
	3	105
	4	159
	6	268-269
	7	314
	9	390
	10	422
Oberea bimaculata Oliv. - - - - -	5	215, 243
	6	247, 263
	7	312
	8	359
Obolodiplosis robiniae Hald. - - - - -	5	238
Oecanthus nigricornis Walk. - - - - -	2	54
	4	154
	8	359
Oecanthus nigricornis quadripunctatus Beut. (error) See		
Oecanthus nigricornis Walk.		
Oecanthus niveus DeG. - - - - -	3	97
	7	311

Oestrus ovis L. - - - - -	2	74
Omiodes blackburni Butl. - - - - -	10	430
Omphalocera dentosa Grote - - - - -	8	378
Oncideres cingulatus Say - - - - -	2	55
	4	156
	7	327
	8	373
	9	389
Oniscidae - - - - -	1	23
	2	61
	3	105,115
Onychiurus armatus Tull. - - - - -	5	230
Ooencyrtus johnsoni How. - - - - -	1	25
Opius fletcheri Silv. - - - - -	10	430
Orchestes pallicornis Say - - - - -	2	52
	3	93
	4	147
	5	211
Orchestes rufipes Lec. - - - - -	9	402
Ormenis pygmaea Fab. - - - - -	9	408
Ormenis quadripunctata Fab. - - - - -	9	408
Orthaea vineta Say - - - - -	1	27
	2	42,64
Orthotylus translucens Tuck. - - - - -	4	168
Oscinella coxendix Fitch - - - - -	9	405
Oscinella frit L. - - - - -	6	255
Oxacis sp. - - - - -	9	408
Oxya chinensis Thunb. - - - - -	10	429
Oxyptilus periscelidactylus Fitch - - - - -	5	215
Pachypsylla germa Riley - - - - -	3	116
Pachystethus lucicola Fab. - - - - -	6	264
Pachystethus marginatus Fab. - - - - -	6	253
Paleacrita vernata Peck - - - - -	1	8,28
	2	66
	3	111
	4	171
	5	233
	6	281
Palpostoma sp. - - - - -	2	45
Panscopus torpidus Lec. - - - - -	4	153
Papaipema nebris nitela Guen. - - - - -	8	353
Papaipema purpurifascia G. & R. - - - - -	6	290
Papilio anchisiades Esp. - - - - -	7	339
Papilio anchisiades Capys Hon. - - - - -	7	340
Parajulus sp. - - - - -	3	105
Paralechia pinifoliella Chamb. - - - - -	9	401
Paratetranychus pilosus C. & F. - - - - -	1	17
	2	52
	3	93
	4	147
	6	261
	7	309-310
Paratetranychus uniunguis Jacobi - - - - -	4	175
	5	240
	6	288
	9	401

Paratheresia claripalpis V.d.W. - - - - -	10	423
Paratrioza cockerelli Sulc - - - - -	4	176
	5	223
	6	248,272
	7	296,317
	8	364
Parharmonia pini Kellic. - - - - -	4	174
	9	400
Paromius longulus Dall. - - - - -	2	64
Pectinophora gossypiella Saund. - - - - -	1	36
	3	123
	5	190,230
	7	338,341
	9	381,396
	10	423
Pemphigus betae Doane - - - - -	2	65
Pemphigus populitransversus Riley - - - - -	6	288
Pentalonia nigronervosa Coq. - - - - -	3	123
Pentatomidae - - - - -	4	151
Peregrinus maidis Ashm. - - - - -	9	405
Perillus bioculatus Fab. - - - - -	7	316
Peritymbia vastatrix Planchon - - - - -	7	342
Perkinsiella saccharicida Kirk. - - - - -	10	429
Pezoporus tenthredinarum Roh. - - - - -	10	427
Phalacrus politus Melsh. - - - - -	6	255
Pheletes californicus Mann. - - - - -	6	253
Pheletes ectypus Say - - - - -	6	253
Phenacoccus acericola King - - - - -	8	374
Phenacoccus gossypii Towns. & Ckll. - - - - -	2	42,71
	5	241
Phenacoccus serratus Ferris - - - - -	3	112
Philaenus spumarius Fall. - - - - -	5	221
Phlegethontius quinque maculata Haw. - - - - -	5	222
	6	271
	7	317
	8	363
Phlegethontius sexta Johan. - - - - -	5	222
	6	271
	7	338
Phlyctaenia ferrugalis Hbn. See		
Phlyctaenia rubigalis Guen.		
Phlyctaenia rubigalis Guen. - - - - -	1	26
	2	70
	4	176
Pholus achemon Drury - - - - -	8	377
Phormia regina Meig. - - - - -	1	34
	5	245
Phryganidia californica Pack. - - - - -	8	374
Phthorophloeus liminaris Harr. - - - - -	4	152
Phyllocoptes oleivorus Ashm. - - - - -	4	156-157
Phyllocoptes quadripes Shim. - - - - -	4	173
Phyllophaga anxia Lec. - - - - -	5	191
Phyllophaga calceata Lec. - - - - -	2	45
Phyllophaga citri Smyth - - - - -	4	185
Phyllophaga congrua Lec. - - - - -	2	45
Phyllophaga hirtiventris Horn - - - - -	2	45

Phyllophaga portoricensis Smyth- - - - -	9	409
Phyllophaga rubiginosa Lec. - - - - -	2	45
Phyllophaga vandinéi Smyth - - - - -	4	185
Phyllophaga spp. - - - - -	2	45
	3	84,121
	4	134
	5	197
	6	247,248,252
	7	295,299-300,324
	8	343,344,347-348
	9	381,383
Phyllotoma nemorata Fallen - - - - -	6	282
	7	327
	8	371-372
	9	398
Phyllotreta bipustulata Fab. - - - - -	1	22
Phyllotreta vittata Fab. - - - - -	1	22
	5	219
	9	395
Phylloxera devastatrix Perg. - - - - -	5	217
	8	360
Phylloxera vitifoliae Fitch - - - - -	6	264
	7	312
Physokermes piceae Sehr. - - - - -	4	175
Phytometra oo Cram. - - - - -	3	122
Phytomyza ilicis Curt. - - - - -	2	72
	3	117
	4	178
Phytonomus nigrirostris Fab. See		
Hypera nigrirostris Fab.		
Phytonomus ruficis L. See		
Hypera ruficis L. See		
Phytophaga destructor Say - - - - -	1	7,10-11
	2	41,46-47
	3	79,85-86
	4	127,135-136
	5	189,199-200
	6	247,254
	7	295,300-303
	8	343,344,349-352
	9	384
	10	417
Phytophaga rigidae O.S. - - - - -	9	402
Piezosternum subulatum Thunb. - - - - -	4	186
Pieris monuste L. - - - - -	5	226
Pineus ströbi Htg. - - - - -	2	69
	3	114
	5	239
	8	375
Pissodes approximatus Hopk. - - - - -	3	113
Pissodes deodarae Hopk. - - - - -	7	329
Pissodes dubius Rand. - - - - -	6	285
Pissodes nemorensis Germ. - - - - -	1	30-31
Pissodes sitchensis Hopk. - - - - -	1	31

Pissodes strobi Peck - - - - -	4	173
	5	239
Pityogenes hopkinsi Sw. - - - - -	3	114
Plagiodera versicolora Laich. - - - - -	2	52
	5	240
	6	288
	7	330
Platydemia ruficornis Sturm - - - - -	9	404
Platynota sp. - - - - -	2	57
Plutella maculipennis Curt. - - - - -	1	8,24
	2	63
	3	107
	4	164
	5	226
	6	275
	7	320
	8	367
	9	393
	10	422
Podosesia fraxini Lugger - - - - -	4	171
	5	234
Polia renigera Steph. - - - - -	4	131
Polychrosis viteana Clem. - - - - -	4	155
	5	215
	6	264
Polymerus cuneatus Dist. - - - - -	9	408
Pomphopoea sayi Fab. - - - - -	6	267
Popillia japonica Newm. - - - - -	2	45
	5	198
	7	297
	8	377
	9	383-384
	10	424
Porosagrotis orthogonia Morr. - - - - -	3	83
	4	133
	5	189,190,195,196
	10	416
Porthetria dispar L. - - - - -	3	110-111
	5	234
	6	294
	7	326
	9	397
	10	425
Prepodes 4-vittatus Oliv. - - - - -	4	188
Prionoxystus robiniae Peck - - - - -	3	111
	7	327
Prionus californicus Motsch. - - - - -	4	152
Priophorus acericaulis MacG. - - - - -	5	238
Pristiphora banksi Marl. - - - - -	6	290-291
	7	329
Prociphilus imbricator Fitch - - - - -	9	397
Prodenia eridania Cram. - - - - -	4	186
	6	252
Prodenia ornithogalli Guen. - - - - -	4	133
	8	365

<i>Prodenia praeifica</i> Grote - - - - -	6	252
<i>Profenusa collaris</i> MacG. - - - - -	5	189,214
	10	427
<i>Prorops nasuta</i> Wtrst. - - - - -	7	340
<i>Protoparce sexta</i> Johan. See		
<i>Phlegethontius sexta</i> Johan.		
<i>Pseudaonidia duplex</i> Ckll. - - - - -	1	20
<i>Pseudaphycus utilis</i> Timb. - - - - -	10	430
<i>Pseudaulacaspis sordidus</i> Hempel - - - - -	7	341
<i>Pseudischnaspis bowreyi</i> Ckll. - - - - -	4	187
<i>Pseudocneorrhinus setosus</i> Roelofs - - - - -	5	190,241
	10	428
<i>Pseudococcus adonidum</i> L. - - - - -	8	361
<i>Pseudococcus boninsis</i> Kuw. - - - - -	1	14
(<i>calceolariae</i> of authors)	3	121
	7	338
<i>Pseudococcus brevipes</i> Ckll. - - - - -	10	430
<i>Pseudococcus citri</i> Risso - - - - -	2	71
	4	188
	7	339
	8	360-361
	9	413,414
<i>Pseudococcus gahani</i> Green - - - - -	1	20
	8	361
<i>Pseudococcus maritimus</i> Ehrh. - - - - -	4	178
	8	361
<i>Pseudococcus nipae</i> Mask. - - - - -	10	430
<i>Pseudococcus sacchari</i> Ckll. - - - - -	3	121
<i>Pseudolynchia maura</i> Bigot - - - - -	4	183
<i>Pseudoparlatoria ostreata</i> Ckll. - - - - -	4	185
	9	408
<i>Pseudosinella violenta</i> Fols. - - - - -	5	230
<i>Psila rosae</i> Fab. - - - - -	1	26
<i>Psilocorsis faginella</i> Chamb. - - - - -	9	397
<i>Psorophora columbiae</i> Dyar & Knab - - - - -	8	380
	10	428
<i>Psorosina hammondi</i> Riley - - - - -	9	386
<i>Psyllia pyricola</i> Foerst. - - - - -	3	97
	4	151
	6	263
<i>Pteronidea ribesii</i> Scop. - - - - -	3	99
	4	155
	5	216
<i>Ptinus fur</i> L. - - - - -	4	184
<i>Ptychodes trilineatus</i> L. - - - - -	2	58
	6	265
<i>Pulvinaria psidii</i> Mask. - - - - -	1	20
	2	58
	9	407
<i>Pulvinaria</i> sp. (near <i>floccifera</i>) - - - - -	5	243
<i>Pulvinaria vitis</i> L. - - - - -	2	68
	4	173
	5	238
	6	286

<i>Pycnoderes heidemanni</i> Reut. - - - - -	9	408
<i>Pyrausta nubilalis</i> Hbn. - - - - -	6	248
	7	295,305
	10	416
<i>Recurvaria apictripunctella</i> Clem. - - - - -	5	235
<i>Recurvaria dorsivittella</i> Zell. - - - - -	7	328
<i>Reticulitermes flavipes</i> Kollar - - - - -	2	75
<i>Reticulitermes hesperus</i> Ehs. - - - - -	3	120
<i>Reticulitermes</i> spp. - - - - -	1	35
	2	74-75
	3	112-120
	4	183
	5	245
	6	292
	7	337
	8	380
	9	404
	10	426
<i>Reticulitermes tibialis</i> Ehs. - - - - -	2	75
<i>Retinodiplosis resinicola</i> O.S. - - - - -	4	174
<i>Reuteroscopus ornatus uvidus</i> Dist. - - - - -	9	408
<i>Rhabdocnemis obscura</i> Bdv. - - - - -	10	429
<i>Rhabdophaga strobiloides</i> Walsh - - - - -	9	401
<i>Rhagoletis cingulata</i> Loew - - - - -	6	263
<i>Rhagoletis fausta</i> O.S. - - - - -	5	214
<i>Rhagoletis pomonella</i> Walsh - - - - -	5	211
	6	260
	7	309
	8	356
	9	386
<i>Rhagoletis</i> spp. - - - - -	5	214
<i>Rhagoletis suavis</i> Loew - - - - -	9	389
<i>Rhizoglyphus hyacinthi</i> Bdv. - - - - -	3	115
	6	291
	9	403
<i>Rhopalosiphum prunifoliae</i> Fitch - - - - -	1	11,15
	2	42,51
	3	90
	4	145
	5	209
	9	386
<i>Rhopalosiphum pseudobrassicae</i> Davis - - - - -	1	26
	9	394
<i>Rhyacionia buoliana</i> Schiff. - - - - -	1	30
	3	113
	4	174
	5	190,238-239
	6	249,287
	8	374
	9	400
<i>Rhyacionia frustrana</i> Scudd. - - - - -	1	30
	2	69
	4	173
	6	287

Rhyacionia frustrana bushnelli Busck - - -	2	69
Rhyacionia rigidana Fern. See Evetria rigidana Fern.		
Rhynchagrotis alternata Grote - - - - -	4	132
Rhynchites bicolor Fab. - - - - -	5	243
	7	333
Rhynchophorus cruentatus Fab. - - - - -	4	179
Rodolia cardinalis Muls. - - - - -	9	410
Saissetia hemisphaerica Targ. - - - - -	4	187
	7	339
	9	407, 413
Saissetia minensis Hempel - - - - -	7	342
Saissetia oleae Bern. - - - - -	3	101
	8	361
	9	405-406, 410, 413
Saperda calcarata Say - - - - -	7	330
Saperda tridentata Oliv. - - - - -	2	68
	6	284
	9	399
Sapromyza picticornis Coq. - - - - -	9	407
Sarcophaga kellyi Ald. - - - - -	7	298
	8	346
Scapteriscus vicinus Scudd. - - - - -	2	42, 60
	6	269
	9	410
Scelio pembertoni Timb. - - - - -	10	429
Schistocerca americana Drury - - - - -	1	9
	2	43
	3	81
	6	250
	7	297
	8	346
	9	381, 382
	10	416
Schistocerca flavofasciata DeG. - - - - -	7	341
Schistocerca sp. - - - - -	6	251
Sciara sp. - - - - -	1	38
	2	76
Scirtothrips citri Moul. - - - - -	2	57
	3	101
	4	157
	5	218
Scolia dubia Say - - - - -	8	377
Scolia manilae Ashm. - - - - -	10	429
Scolytus multistriatus Marsh. - - - - -	5	235
	6	284
Scolytus rugulosus Ratz. - - - - -	2	52
	3	93
	4	147
	7	311
	8	343, 359
Scutigerella immaculata Newp. - - - - -	2	61
	3	105
	4	160
	5	241
	8	377
	9	403

<i>Scymnillodes gilvifrons</i> Chpn. - - - - -	9	405
<i>Selenaspidus articulatus</i> Morg. - - - - -	9	413
<i>Sibine stimulea</i> Clem. - - - - -	7	333
<i>Simuliidae</i> - - - - -	2	74
	3	119
<i>Sipha flava</i> Forbes - - - - -	9	405
<i>Siphunculina signata</i> Wollaston - - - - -	9	408
<i>Sitona hispidulus</i> Fab. - - - - -	2	48
	4	139
<i>Sitophilus linearis</i> Hbst. - - - - -	4	186
<i>Solenopsis geminata</i> Fab. - - - - -	8	380
	9	414
<i>Solenopsis pergandei</i> Forel - - - - -	2	59
<i>Solenopsis</i> sp. - - - - -	1	35
<i>Sphingidae</i> - - - - -	4	176
<i>Sphinx lineata</i> Fab. - - - - -	5	196
<i>Spilographa electa</i> Say - - - - -	7	324
<i>Spilonota ocellana</i> Schiff. - - - - -	3	89
	4	144-145
	6	259
<i>Spodoptera mauritia</i> Bdv. - - - - -	10	429
<i>Stagnomantis carolina</i> Johan. - - - - -	2	71
	4	177
<i>Staphylinidae</i> - - - - -	3	379-380
<i>Stephanitis rhododendri</i> Horv. - - - - -	4	179
<i>Stephanoderes braziliensis</i> Hopk. - - - - -	9	408
<i>Stelidota geminata</i> Say - - - - -	1	37
<i>Stenoma sororia</i> Zell. - - - - -	9	411
<i>Stephanoderes hampei</i> Ferr. - - - - -	7	340
<i>Stericta albifasciata</i> Druce - - - - -	9	411
<i>Stictocephala festina</i> Say - - - - -	1	22
	3	104
	9	412
<i>Stilpnobia salicis</i> L. - - - - -	5	234
	6	281
	10	425-426
<i>Stomoxys calcitrans</i> L. - - - - -	2	73
	3	118-119
	4	182
	5	244, 246
	7	335-336
<i>Strategus julianus</i> Burm. - - - - -	6	291
<i>Susana cupressi</i> Roh. & Middleton - - - - -	6	283
<i>Syntomaspis druporum</i> Boh. - - - - -	8	356
<i>Systema basalis</i> Duv. - - - - -	7	338
<i>Systema</i> - - - - -	9	408
<i>Systema hudsonias</i> Forst. - - - - -	5	206
<i>Systema taeniata</i> Say - - - - -	1	22
	5	204-205
<i>Systema taeniata blanda</i> Melsh. - - - - -	5	204-205
<i>Tabanidae</i> - - - - -	7	336-337
<i>Tabanus equalis</i> Hine - - - - -	9	404
<i>Tabanus gracilis</i> Wied. - - - - -	9	404
<i>Tabanus rubescens</i> Bellardi - - - - -	9	404
<i>Tabanus sulcifrons</i> Macq. - - - - -	9	404

Tachypterellus quadrigibbus Say - - - - -	4	147
	6	261
	7	309
	8	356
	9	388
Taeniothrips gladioli Moul. - - - - -	1	32
	2	72
	3	116
	4	178
	5	242
	6	290, 294
	7	296, 331-332
	8	344, 378
	9	403
	10	431
Taeniothrips inconsequens Uzel - - - - -	2	54
	3	98
	4	151
Tanymecus lacaena Hbst. - - - - -	3	108
Tarsonemus pallidus Bks. - - - - -	1	32
	4	178
Tegrodera erosa Lec. - - - - -	7	315
Tenodera sinensis Sauss. - - - - -	2	71
	8	377
	9	402
Tenuipalpus bioculatus McG. - - - - -	5	242
Tetracnemus pretiosus Timb. - - - - -	8	361
Tetralopha melanogrammos Zell. - - - - -	2	69
Tetraneura ulmisacculi Patch - - - - -	6	284
Tetranychus pacificus McG. - - - - -	2	55
	5	216
	8	343, 360
	10	427
Tetranychus sp. - - - - -	3	102
Tetranychus telarius L. - - - - -	1	10
	2	46
	3	85
	4	152, 160
	6	289
	7	309, 331
	9	388
Tetranychus willamettei McG. - - - - -	5	216
Tetrastichus xanthomelaenae Rond. - - - - -	10	425
Thrips tabaci Lind. - - - - -	1	26
	2	70
	4	128, 159-160, 167-168
	5	206, 228
	6	278
	9	394
Tholera reversalalis Guen. - - - - -	6	290
	7	332
Thyanta perditor Fab. - - - - -	4	186, 187

Thyridopteryx ephemeraeformis Haw. - - - -	2	66
	6	248,280-281
	7	326
	10	426
Thysanoptera - - - - -	3	105
	4	159-160,176-177
	6	269
	7	306,323
Tiphia lucida Ashm. - - - - -	10	430-431
Tipula bicornis Forbes - - - - -	2	48
Tipula simplex Doane - - - - -	1	13
Tipulidae - - - - -	1	27
Tomaspis literata Lep. & Serv. - - - - -	7	342
Tomostethus bardus Say - - - - -	5	234
Tomostethus multicinctus Roh. - - - - -	4	171
Toumeyella liriodendri Gmel. - - - - -	3	117
	9	401
Toumeyella numismaticum P. & McD. - - - - -	2	70
Toxoptera aurantii Boyer - - - - -	2	57,76
	9	389,406
Toxoptera graminum Rond. - - - - -	1	7,11-12
	4	127,136-137
	6	255
	10	418
Toxotrypana curvicauda Gerst. - - - - -	4	188
Tremex columba L. - - - - -	8	371
Trialeurodes vaporariorum Westw. - - - - -	1	31
Triaspis curculionis Fitch - - - - -	5	212
	6	262
Triaspis curculionis rufus Riley - - - - -	5	212
Triatoma protracta Uhler - - - - -	7	334
Trichobaris trinotata Say - - - - -	5	231
	7	316
Trionymus sacchari Ckll. - - - - -	9	414
	10	429
Tritoxa flexa Wied. - - - - -	3	109
Trombicula irritans Riley - - - - -	1	32
	6	292
Tuberculatus punctatella Fitch - - - - -	6	282
Tuberculatus ulmifolii Monell - - - - -	6	282
Tuberolachnus saligna Gmel. - - - - -	9	402
Tychius picirostris Fab. - - - - -	1	12
Tyloderma fragariae Riley - - - - -	9	395
Typhlocyba pomaria McAtee - - - - -	3	92
	4	146
	5	210
	6	260
	7	308
	8	357
Typlocyba sp. - - - - -	6	260
Typophorus viridicyaneus Crotch - - - - -	9	394
Urophorus humeralis Fab. - - - - -	1	38
Vanduzee arcuata Say - - - - -	5	238

Xestobium sp. - - - - -	3	120
Xylastodoris luteolus Barber - - - - -	4	179
Xyleborus germanus Blandf. - - - - -	3	99
Xyleborus sacchari Hopk. - - - - -	1	37
Xylocrius agassizi Lec. - - - - -	4	153
Xyloterinus politus Say - - - - -	1	29
Zelus subimpressus Stal - - - - -	9	405
Zeuzera pyrina L. - - - - -	2	68
	4	172

We wish particularly to urge upon our collaborators the use of the common names accepted by the American Association of Economic Entomologists. These should be considered as official names by all American economic entomologists. These approved common names are indicated by the letters a. n. o. (americano nomina officinale). A list of all accepted names was published in the Journal of Economic Entomology for December, 1931, pages 1273-1310.

Achemon sphinx a.n.o. - - - - -	Pholus achemon Drury
Alder flea beetle a.n.o. - - - - -	Haltica bimarginata Say
Alfalfa caterpillar a.n.o. - - - - -	Eurymus eurytheme Bdv.
Alfalfa webworm - - - - -	Loxostege commixtalis Walk.
Alfalfa weevil a.n.o. - - - - -	Hypera postica Gyll.
Apple aphid a.n.o. - - - - -	Aphis pomi DeG.
Apple curculio a.n.o. - - - - -	Tachypterellus quadrigibbus Say
Apple flea weevil a.n.o. - - - - -	Orchestes pallicornis Say
Apple fruit miner a.n.o. - - - - -	Marmara pomonella Busck
Apple grain aphid a.n.o. - - - - -	Rhopalosiphum prunifoliae Fitch
Apple leaf skeletonizer a.n.o. - - - - -	Psorosina hammondi Riley
Apple maggot a.n.o. - - - - -	Rhagoletis pomonella Walsh
Apple redbug a.n.o. - - - - -	Lygidea mendax Reut.
Apple seed chalcid a.n.o. - - - - -	Syntomaspis druparum Boh.
Apple twig borer a.n.o. - - - - -	Amphicerus bicaudatus Say
Arborvitae aphid - - - - -	Dilachnus thujaefolius Del G.
Arborvitae leaf miner a.n.o. - - - - -	Argyresthia thuiella Pack.
Argentine ant a.n.o. - - - - -	Iridomyrmex humilis Mayr
Armyworm a.n.o. - - - - -	Cirphis unipuncta Haw.
Ash borer a.n.o. - - - - -	Podosesia fraxini Lugger
Ash leaf bug - - - - -	Neoborus illitus Vond.
Ash sawfly - - - - -	Tomostethus multicinctus Roh.
Asiatic beetle a.n.o. - - - - -	Anomala orientalis Waterh.
Asiatic garden beetle - - - - -	Autoserica castanea Arrow
Asparagus beetle a.n.o. - - - - -	Crioceris asparagi L.
Aster aphid - - - - -	Aphis middletoni Thos.
Azalea mealybug - - - - -	Eriococcus azaleae Comst.
Bagworm a.n.o. - - - - -	Thyridopteryx ephemeraeformis Haw.
Balsam fir weevil - - - - -	Pissodes dubius Rand.
Balsam twig aphid a.n.o. - - - - -	Mindarus abietinus Koch
Banded ash borer - - - - -	Neoclytus caprea Say
Banded cucumber beetle a.n.o. - - - - -	Diabrotica balteata Lec.
Barnacle scale a.n.o. - - - - -	Ceroplastes cirripediformis Comst.
Beaked willow gall - - - - -	Phytophaga rigidus O.S.
Bean aphid a.n.o. - - - - -	Aphis rumicis L.
Bean leaf beetle a.n.o. - - - - -	Cerotoma trifurcata Forst.
Bean leaf roller a.n.o. - - - - -	Goniurus proteus L.
Bean thrips a.n.o. - - - - -	Heliethrips fasciatus Perg.
Beech scale a.n.o. - - - - -	Cryptococcus fagi Baer
Beet armyworm a.n.o. - - - - -	Laphygma exigua Hbn.
Beet leafhopper a.n.o. - - - - -	Eutettix tenellus Bak.
Beet webworm a.n.o. - - - - -	Loxostege sticticalis L.
Birch case bearer - - - - -	Coleophora salmani Heinr.
Birch leaf miner - - - - -	Fenusa pumila Klug
Birch leaf-mining sawfly - - - - -	Phyllotoma nemorata Fallén
Birch skeletonizer a.n.o. - - - - -	Bucculatrix canadensisella Chamb.
Black blowfly - - - - -	Phormia regina Meig.
Black cherry aphid a.n.o. - - - - -	Myzus cerasi Fab.

Black citrus aphid a.n.o. - - - - -	Toxoptera aurantii Boyer
Black gooseberry borer - - - - -	Xylocrius agassizii Lec.
Black-horned tree cricket a.n.o. - -	Oecanthus nigricornis Walk.
Black onion fly - - - - -	Tritoxa flexa Wied.
Black peach aphid a.n.o. - - - - -	Anuraphis persicae-niger Smith
Black scale a.n.o. - - - - -	Scissotia oleae Bern.
Black stink bug - - - - -	Cosmopepla bimaculata Thom.
Black vine weevil a.n.o. - - - - -	Brachyrhinus sulcatus Fab.
Black widow - - - - -	Lathrodectes mactans Fab.
Boll weevil a.n.o. - - - - -	Anthonomus grandis Boh.
Bordered plant bug - - - - -	Euryophthalmus convivus Stal
Boxelder bug a.n.o. - - - - -	Leptocoris trivittatus Say
Boxwood leaf miner a.n.o. - - - - -	Monarthropalpus buxi Labou.
Bristly rose slug a.n.o. - - - - -	Cladius isomerus Nort.
Bronze birch borer a.n.o. - - - - -	Agrilus anxius Gory
Buck moth a.n.o. - - - - -	Hemileuca maia Drury
Bulb mite a.n.o. - - - - -	Rhizoglyphus hyacinthi Bdv.
Cabbage aphid a.n.o. - - - - -	Brevicoryne brassicae L.
Cabbage curculio a.n.o. - - - - -	Ceutorhynchus rapae Gyll.
Cabbage looper a.n.o. - - - - -	Autographa brassicae Riley
Cabbage maggot a.n.o. - - - - -	Hylemyia brassicae Bouche
Cabbage webworm a.n.o. - - - - -	Hellula undalis Fab.
California false chinch bug - - - -	Nysius californicus Stal
California oak worm a.n.o. - - - - -	Phryganidia californica Pack.
California pear sawfly - - - - -	Diphadnus californicus Marlatt
California red scale a.n.o. - - - - -	Chrysomphalus aurantii Mask.
California root borer - - - - -	Prionus californicus Motsch.
California tortoise shell - - - - -	Aglais californica Bdv.
Camellia scale - - - - -	Lepidosaphes camelliae Hoke
Camphor scale a.n.o. - - - - -	Pseudaonidia duplex Ckll.
Cardin's whitefly - - - - -	Aleurodicus cardini Back
Carolina mantis a.n.o. - - - - -	Stagmomantis carolina Johan.
Carpenter worm a.n.o. - - - - -	Prionoxystus robiniae Peck
Carrot rust fly a.n.o. - - - - -	Psila rosae Fab.
Castor bean tick a.n.o. - - - - -	Ixodes ricinus L.
Catalpa sphinx a.n.o. - - - - -	Ceratonia catalpae Bdv.

Celery leaf tier. See

Greenhouse leaf tier

Celery looper a.n.o. - - - - -	Autographa falcifera Koy.
Changa a.n.o. - - - - -	Scapteriscus vicinus Scudd.
Cherry fruit fly a.n.o. - - - - -	Rhagoletis cingulata Loew
Cherry fruit sawfly - - - - -	Hoplocampa cooki Clarke
Cherry leaf miner - - - - -	Profenusa collaris MacG.
Chicken mite a.n.o. - - - - -	Dermanyssus gallinae L.
Chigger a.n.o. - - - - -	Trombicula irritans Riley
Chinch bug a.n.o. - - - - -	Blissus leucopterus Say
Chinese mantis a.n.o. - - - - -	Tenodera sinensis Scuss.
Chokecherry midge - - - - -	Contarinia virginiana Felt.
Chrysanthemum gall midge a.n.o. - -	Diarthronomyia hypogaea Loew
Citricola scale - - - - -	Coccus pseudomagnoliarum Kuw.
Citrophilus mealybug a.n.o. - - - -	Pseudococcus gubani Green

Citrus aphid. See

Green citrus aphid

Citrus mealybug a.n.o. - - - - -	Pseudococcus citri Risso
Citrus rust mite a.n.o. - - - - -	Phyllocoptes oleivorus Ashm.
Citrus whitefly a.n.o. - - - - -	Dialeurodes citri Riley & How.

Climbing cutworm - - - - -	Lompra barnesi Benjamin
Clover flea hopper - - - - -	Halticus citri Uhler
Clover head weevil a.n.o. - - - - -	Tychius picirostris Fab.
Clover leafhopper - - - - -	Aceratagallia sanguinolenta Prov.
Clover leaf weevil a.n.o. - - - - -	Hypera punctata Fab.
Clover mite a.n.o. - - - - -	Bryobia praetiosa Koch
Clover root curculio a.n.o. - - - - -	Sitona hispidulus Fab.
Clover seed chalcid a.n.o. - - - - -	Bruchophagus funebris How.
Codling moth a.n.o. - - - - -	Carpocapsa pomonella L.
Colorado potato beetle a.n.o. - - - - -	Leptinotarsa decemlineata Say
Columbine borer a.n.o. - - - - -	Papaipema purpurifascia G. & R.
Common cattle grub a.n.o. - - - - -	Hypoderma lineatum DeVill.
Common red spider a.n.o. - - - - -	Tetranychus telarius L.
Corn ear worm a.n.o. - - - - -	Heliothis obsoleta Fab.
Corn flea beetle a.n.o. - - - - -	Chaetocnema pulicaria Melsh.
Corn leaf aphid a.n.o. - - - - -	Aphis maidis Fitch
Corn root aphid a.n.o. - - - - -	Anurophis maidi-radici Forbes
Cotton leaf worm a.n.o. - - - - -	Alabama argillacea Hbn.
Cottonwood leaf beetle a.n.o. - - - - -	Chrysomela scripta Fab.
Cottony-cushion scale a.n.o. - - - - -	Icerya purchasi Mask.
Cottony maple scale a.n.o. - - - - -	Pulvinaria vitis L.
Cowpea aphid a.n.o. - - - - -	Aphis medicaginis Koch
Cowpea curculio a.n.o. - - - - -	Chalcodermus ceneus Boh.
Crepe myrtle aphid a.n.o. - - - - -	Myzocallis kahawaluokalani Kirk.
Cross-striped cabbage worm a.n.o. - - - - -	Evergestis rimosalis Guen.
Currant aphid a.n.o. - - - - -	Myzus ribis L.
Currant fruit fly a.n.o. - - - - -	Epochra canadensis Loew
Cyclamen mite a.n.o. - - - - -	Tarsonemus pallidus Bks.
Cypress leaf miner - - - - -	Recurvaria apictripunctella Clem.
Deodar weevil a.n.o. - - - - -	Pissodes deodarae Hopk.
Desert corn flea beetle a.n.o. - - - - -	Chaetocnema ectypa Horn
Diamond-back moth a.n.o. - - - - -	Plutella maculipennis Curt.
Eastern spruce beetle a.n.o. - - - - -	Dendroctonus piceaperda Hopk.
Eastern tent caterpillar a.n.o. - - - - -	Malacosoma americana Fab.
Eggplant flea beetle a.n.o. - - - - -	Epitrix fuscula Crotch
Eggplant lacebug a.n.o. - - - - -	Gargaphia solani Heid.
Eight-spotted forester a.n.o. - - - - -	Alypia octomaculata Fab.
Elm borer a.n.o. - - - - -	Saperda tridentata Oliv.
Elm cockscomb gall a.n.o. - - - - -	Colopha ulmicola Fitch
Elm lacebug - - - - -	Corythucha pallida ulmi O. & D.
Elm leaf beetle a.n.o. - - - - -	Galerucella xanthomelaena Schr.
Elm leaf miner a.n.o. - - - - -	Kaliosysphinga ulmi Sund.
Elm scurfy scale a.n.o. - - - - -	Chionaspis americana Johns.
Elm spanworm a.n.o. - - - - -	Ennomos subsignarius Hbn.
English grain aphid a.n.o. - - - - -	Macrosiphum granarium Kby.
Euonymus scale a.n.o. - - - - -	Chionaspis euonymi Comst.
European corn borer a.n.o. - - - - -	Pyrausta nubilalis Hbn.
European earwig a.n.o. - - - - -	Forficula auricularia L.
European elm scale a.n.o. - - - - -	Gossyparia spuria Mod.
European fruit lecanium a.n.o. - - - - -	Lecanium corni Bouche
European pine shoot moth a.n.o. - - - - -	Rhyacionia buoliana Schiff.
European red mite a.n.o. - - - - -	Paratetranychus pilosus C. & F.
European willow beetle - - - - -	Plagiodera versicolora Laich.
Eye-spotted budmoth a.n.o. - - - - -	Spilonota ocellana Schiff.
Fall armyworm a.n.o. - - - - -	Lophygma frugiperda S. & A.
Fall canker worm a.n.o. - - - - -	Alsophila peretaria Harr.

Fall webworm a.n.o. - - - - -	<i>Hyphantria cunea</i> Drury
False chinch bug a.n.o. - - - - -	<i>Nysius ericae</i> Schill.
False tarnished plant bug - - - - -	<i>Lygus invitus</i> Say
Fern scale a.n.o. - - - - -	<i>Hemichionaspis aspidistrae</i> Sign.
Field cricket a.n.o. - - - - -	<i>Gryllus assimilis</i> Fab.
Fir bark louse - - - - -	<i>Dreyfusia picea</i> Ratz.
Flat-headed apple tree borer a.n.o.-	<i>Chrysobothris femorata</i> Oliv.
Florida red scale a.n.o. - - - - -	<i>Chrysomphalus aonidum</i> L.
Florida wax scale a.n.o. - - - - -	<i>Ceroplastes floridensis</i> Comst.
Flower thrips a.n.o. - - - - -	<i>Frankliniella tritici</i> Fitch
Forest tent caterpillar a.n.o. - - -	<i>Malacosoma disstria</i> Hbn.
Frit fly a.n.o. - - - - -	<i>Oscinella frit</i> L.
Fruit tree leaf roller a.n.o. - - -	<i>Cacoecia argyrospila</i> Walk.
Fuller's rose beetle a.n.o. - - - -	<i>Asynonychus godmani</i> Crotch
Garden centipede - - - - -	<i>Scutigera immaculata</i> Newp.
(Greenhouse centipede)	
Garden slug - - - - -	<i>Agriolimax agrestis</i> L.
Giant aphid - - - - -	<i>Longistigma caryae</i> Harr.
Giant skipper - - - - -	<i>Epargyreus tityrus</i> Fab.
Giant willow aphid - - - - -	<i>Tuberolachnus saligna</i> Gmel.
Gladiolus thrips - - - - -	<i>Taeniothrips gladioli</i> Moul.
Gloomy scale a.n.o. - - - - -	<i>Chrysomphalus tenebricosus</i> Comst.
Golden oak scale - - - - -	<i>Asterolecanium variolosum</i> Ratz.
Golden tortoise beetle a.n.o. - - -	<i>Metritona bicolor</i> Fab.
Grain leafhopper - - - - -	<i>Draeculacephala reticulata</i> Sign.
Grape berry moth a.n.o. - - - - -	<i>Polychrosis viteana</i> Clem.
Grape colaspis a.n.o. - - - - -	<i>Colaspis brunnea</i> Fab.
Grape flea beetle a.n.o. - - - - -	<i>Haltica chalybea</i> Ill.
Grape leaf folder a.n.o. - - - - -	<i>Desmia funeralis</i> Hbn.
Grape leafhopper a.n.o. - - - - -	<i>Erythroneura comes</i> Say
Grape mealybug a.n.o. - - - - -	<i>Pseudococcus maritimus</i> Ehrh.
Grape phylloxera a.n.o. - - - - -	<i>Phylloxera vitifoliae</i> Fitch
Grape plume moth a.n.o. - - - - -	<i>Oxyptilus periscelidactylus</i> Fitch
Grape root worm a.n.o. - - - - -	<i>Fidia viticida</i> Walsh
Gray sugarcane mealybug - - - - -	<i>Pseudococcus boninsis</i> Kuw.
Green bug a.n.o. - - - - -	<i>Toxoptera graminum</i> Rond.
Green citrus aphid - - - - -	<i>Aphis spiraeicola</i> Patch
Green fruit worm a.n.o. - - - - -	<i>Graptolitha antennata</i> Walk.
Greenhouse centipede. See	
Garden centipede	
Greenhouse leaf tier a.n.o. - - - -	<i>Phlyctaenia rubigalis</i> Guen.
Greenhouse whitefly a.n.o. - - - -	<i>Trialeurodes vaporariorum</i> Westw.
Green June beetle a.n.o. - - - - -	<i>Cotinis nitida</i> L.
Green peach aphid a.n.o. - - - - -	<i>Myzus persicae</i> Sulz.
Green shield scale a.n.o. - - - - -	<i>Pulvinaria psidii</i> Mask.
Green stink bug a.n.o. - - - - -	<i>Acrosternum hilaris</i> Say
Green-striped maple worm a.n.o. - -	<i>Anisota rubicunda</i> Fab.
Gypsy moth a.n.o. - - - - -	<i>Porthetria dispar</i> L.
Hackberry bud gall - - - - -	<i>Pachypsylla gemma</i> Riley
Harlequin bug a.n.o. - - - - -	<i>Murgantia histrionica</i> Hahn
Hemlock bark borer - - - - -	<i>Melanophila fulvoguttata</i> Harr.
Hessian fly a.n.o. - - - - -	<i>Phytophaga destructor</i> Say
Hickory agrilus - - - - -	<i>Agilus otiosus</i> Say
Hickory shuck worm a.n.o. - - - - -	<i>Laspeyresia caryana</i> Fitch
Holly leaf miner a.n.o. - - - - -	<i>Phytomyza ilicis</i> Curt.
Hooded plant bug - - - - -	<i>Euthochtha galeator</i> Fab.

Horn fly a.n.o. - - - - -	Haematobia irritans L.
Horse botfly a.n.o. - - - - -	Gastrophilus intestinalis DeG.
House cricket a.n.o. - - - - -	Gryllus domesticus L.
House fly a.n.o. - - - - -	Musca domestica L.
Imbricated snout beetle a.n.o. - - -	Epicaerus imbricatus Say
Imported cabbage worm a.n.o. - - - -	Ascia rapae L.
Imported currant worm a.n.o. - - - -	Pteronidea ribesii Scop.
Introduced pine sawfly a.n.o. - - -	Diprion simile Htg.
Iris borer a.n.o. - - - - -	Macronoctua onusta Grote
Ivy scale - - - - -	Aspidiotus hederae Vall.
Japanese beetle a.n.o. - - - - -	Popillia japonica Newm.
Japanese maple scale - - - - -	Leucaspis japonica Ckll.
Juniper scale - - - - -	Diaspis carueli Targ.
Juniper webworm - - - - -	Dichomeris marginellus Fab.
Larch case bearer a.n.o. - - - - -	Coleophora laricella Hbn.
Larch sawfly a.n.o. - - - - -	Lygaeonematus erichsoni Htg.
Leaf crumpler a.n.o. - - - - -	Mineola indiginella Zell.
Leaf-footed bug a.n.o. - - - - -	Leptoglossus phyllopus L.
Leopard moth a.n.o. - - - - -	Zeuzera pyrina L.
Lesser bulb fly a.n.o. - - - - -	Eumerus tuberculatus Rond.
Lesser canna leafroller - - - - -	Geshna cannalis Quent.
Lesser clover leaf weevil - - - - -	Hypera nigrirostris Fab.
Lesser corn stalk borer a.n.o. - - -	Elasmopalpus lignosellus Zell.
Lesser peach borer a.n.o. - - - - -	Aegeria pictipes G. & R.
Lima bean vine borer - - - - -	Monoptilota pergratialis Hulst
Linden lacebug - - - - -	Gargaphia tiliae Walsh
Linden wart gall - - - - -	Cecidomyia verrucicola O.S.
Locust borer a.n.o. - - - - -	Cyllene robiniae Forst.
Locust leaf midge - - - - -	Obolodiplosis robiniae Hald.
Locust leaf miner a.n.o. - - - - -	Chalepus dorsalis Thunb.
Magnolia scale a.n.o. - - - - -	Neolecanium cornuparvum Thro
Maple bladder gall - - - - -	Phyllocoptes quadripes Shim.
Maple leaf stem borer - - - - -	Priophorus acericaulis MacG.
Maple nepticula - - - - -	Nepticula sericopeza Zell.
Melon aphid a.n.o. - - - - -	Aphis gossypii Glov.
Melon worm a.n.o. - - - - -	Diaphania hyalinata L.
Mexican bean beetle a.n.o. - - - - -	Epilachna corrupta Muks.
Mexican fruit fly a.n.o. - - - - -	Anastrepha ludens Loew
Mexican mealybug - - - - -	Phenacoccus gossypii Towns. & Ckll.
Mint leaf beetle - - - - -	Longitarsus methaphagus Gent.
Monarch butterfly a.n.o. - - - - -	Danaus plexippus Fab.
Mormon cricket a.n.o. - - - - -	Anabrus simplex Hald.
Mourning-cloak butterfly a.n.o. - - -	Hamadryas antiopa L.
Nantucket pine shoot moth - - - - -	Rhyacionia frustrana Scudd.
New York weevil a.n.o. - - - - -	Ithycerus noveboracensis Forst.
Nose botfly a.n.o. - - - - -	Gastrophilus haemorrhoidalis L.
Nuttall's blister beetle a.n.o. - - -	Lytta nuttalli Say
Oak fig root gall - - - - -	Dryophanta radicola Ashm.
Oak knot gall - - - - -	Andricus punctatus Bass.
Oak twig pruner - - - - -	Hypercallus villosus Fab.
Obscure scale a.n.o. - - - - -	Chrysomphalus obscurus Comst.
Oleander scale - - - - -	Aspidiotus hederae Vall.
Onion maggot a.n.o. - - - - -	Hylemyia antiqua Meig.
Onion thrips a.n.o. - - - - -	Thrips tabaci Lind.
Orange maggot. See Mexican fruit fly	

Orange-striped oak worm a.n.o. - - -	<i>Anisota senatoria</i> S. & A.
Orange thrips a.n.o. - - - - -	<i>Scirtothrips citri</i> Moulton
Oriental fruit moth a.n.o. - - - - -	<i>Grapholitha molesta</i> Busck
Oriental moth a.n.o. - - - - -	<i>Cnidocampa flavescens</i> Walk.
Oyster-shell scale a.n.o. - - - - -	<i>Lepidosaphes ulmi</i> L.
Pacific red spider - - - - -	<i>Tetranychus pacificus</i> McG.
Pale tussock moth a.n.o. - - - - -	<i>Halisidota tessellaris</i> S. & A.
Pales weevil - - - - -	<i>Hylobius pales</i> Boh.
Pea aphid a.n.o. - - - - -	<i>Illinoia pisi</i> Kalt.
Pea weevil a.n.o. - - - - -	<i>Bruchus pisorum</i> L.
Peach bark beetle a.n.o. - - - - -	<i>Phthorophloeus liminaris</i> Harr.
Peach borer a.n.o. - - - - -	<i>Aegeria exitiosa</i> Say
Peach twig borer a.n.o. - - - - -	<i>Anarsia lineatella</i> Zell.
Pear midge a.n.o. - - - - -	<i>Contarinia pyrivora</i> Riley
Pear psylla a.n.o. - - - - -	<i>Psyllia pyricola</i> Foerst.
Pear slug a.n.o. - - - - -	<i>Eriocampoides limacina</i> Retz.
Pear thrips a.n.o. - - - - -	<i>Taeniothrips inconsequens</i> Uzel
Pecan budmoth a.n.o. - - - - -	<i>Gretchena bolliana</i> Sling.
Pecan case bearer a.n.o. - - - - -	<i>Mineola juglandis</i> LeB.
Pecan cigar case bearer a.n.o. - - -	<i>Coleophora caryaefoliella</i> Clem.
Pecan cossid - - - - -	<i>Cossula magnifica</i> Streck.
Pecan leaf case bearer - - - - -	<i>Acrobasis palliolella</i> Rag.
Pecan nut case bearer a.n.o. - - - -	<i>Acrobasis caryae</i> Grote
Pecan phylloxera - - - - -	<i>Phylloxera devastatrix</i> Perg.
Pecan sawfly - - - - -	<i>Acordulecera maura</i> McG.
Pepper grass beetle a.n.o. - - - - -	<i>Galeruca externa</i> Say
Pepper maggot - - - - -	<i>Spilographa electa</i> Say
Pepper weevil a.n.o. - - - - -	<i>Anthonomus eugenii</i> Cano
Periodical cicada a.n.o. - - - - -	<i>Magicicada septendecim</i> L.
Phlox bug - - - - -	<i>Lopidea media</i> Say
Pickle worm a.n.o. - - - - -	<i>Diaphania nitidalis</i> Stoll
Pigeon fly a.n.o. - - - - -	<i>Pseudolynchia maura</i> Bigot
Pigeon tremex a.n.o. - - - - -	<i>Tremex columba</i> L.
Pine bark aphid a.n.o. - - - - -	<i>Pineus strobi</i> Htg.
Pine cone gall - - - - -	<i>Rhabdophaga strobiloides</i> Walsh
Pine leaf miner - - - - -	<i>Paralechia pinifoliella</i> Chamb.
Pine needle scale a.n.o. - - - - -	<i>Chionaspis pinifoliae</i> Fitch
Pine tube moth a.n.o. - - - - -	<i>Eulia pinatubana</i> Kearf.
Pink boll worm a.n.o. - - - - -	<i>Pectinophora gossypiella</i> Saund.
Pitch mass borer - - - - -	<i>Parharmonia pini</i> Kellic.
Pitch midge - - - - -	<i>Retinodiplosis resinicola</i> O.S.
Plum curculio a.n.o. - - - - -	<i>Conotrachelus nenuphar</i> Hbst.
Poplar borer a.n.o. - - - - -	<i>Saperda calcarata</i> Say
Potato aphid a.n.o. - - - - -	<i>Illinoia solanifolii</i> Ashm.
Potato flea beetle a.n.o. - - - - -	<i>Epitrix cucumeris</i> Harr.
Potato leafhopper a.n.o. - - - - -	<i>Erposca fabae</i> Harr.
Potato stalk borer a.n.o. - - - - -	<i>Trichobaris trinotata</i> Say
Potato tuber worm a.n.o. - - - - -	<i>Gnorimoschema operculella</i> Zell.
Purple scale a.n.o. - - - - -	<i>Lepidosaphes beckii</i> Newm.
Quince curculio a.n.o. - - - - -	<i>Conotrachelus crataegi</i> Walsh
Quince lacebug - - - - -	<i>Corythucha cydoniae</i> Fitch
Range crane fly a.n.o. - - - - -	<i>Tipula simplex</i> Doane
Raspberry cane borer a.n.o. - - - - -	<i>Oberea bimaculata</i> Oliv.
Raspberry cane maggot a.n.o. - - - -	<i>Hylemyia rubivora</i> Coq.
Raspberry fruit worm a.n.o. - - - - -	<i>Byturus unicolor</i> Say
Raspberry root borer a.n.o. - - - - -	<i>Bembecia marginata</i> Harr.

Raspberry sawfly a.n.o. - - - - -	Monophadnoides rubi Harr.
Red-headed pine sawfly a.n.o. - - -	Neodiprion lecontei Fitch
Red-necked cane borer a.n.o. - - - -	Agrilus ruficollis Fab.
Red turpentine beetle a.n.o. - - - -	Dendroctonus valens Lec.
Resplendent shield bearer a.n.o. - - -	Coptodisca splendoriferella Clem.
Rhododendron lacebug a.n.o. - - - - -	Stephanitis rhododendri Horv.
Ribbed cocoon maker - - - - -	Bucculatrix pomifoliella Clem.
Ring-legged earwig a.n.o. - - - - -	Anisolabis annulipes Lucas
Rocky Mountain spotted fever tick - -	Dermacentor venustus Bks.
Rose aphid a.n.o. - - - - -	Macrosiphum rosae L.
Rose chafer a.n.o. - - - - -	Macroductylus subspinosus Fab.
Rose curculio a.n.o. - - - - -	Rhynchites bicolor Fab.
Rose leaf beetle - - - - -	Modonota puncticollis Say
Rose sawfly a.n.o. - - - - -	Caliroa aethiops Fab.
Rose scale a.n.o. - - - - -	Aulacaspis rosae Bouche
Rosy apple aphid a.n.o. - - - - -	Anuraphis roseus Baker.
Rough strawberry root weevil - - - -	Brachyrhinus rugosostriatus Goeze
Royal palm bug - - - - -	Xylastodoris luteolus Barber
Rusty plum aphid a.n.o. - - - - -	Hysteroneura setariae Thos.
Rusty tussock moth a.n.o. - - - - -	Notolophus antiqua L.
Saddle-back caterpillar a.n.o. - - -	Sibine stimulea Clem.
Salt-marsh caterpillar a.n.o. - - - -	Estigmene acraea Drury
San Jose scale a.n.o. - - - - -	Aspidiotus perniciosus Comst.
Satin moth a.n.o. - - - - -	Stilpnotia salicis L.
Say's stink bug a.n.o. - - - - -	Chlorochroa sayi Stal.
Scotch pine lecanium - - - - -	Tourneyella numismaticum P. & McD.
Screw worm a.n.o. - - - - -	Cochliomyia macellaria Fab.
Seed corn beetle a.n.o. - - - - -	Agonoderus pallipes Fab.
Seed corn maggot a.n.o. - - - - -	Hylemyia ciliatula Rond.
Serpentine leaf miner a.n.o. - - - -	Agromyza pusilla Meig.
Sheep botfly a.n.o. - - - - -	Oestrus ovis L.
Shot-hole borer a.n.o. - - - - -	Scolytus rugulosus Ratz.
Short-nosed cattle louse a.n.o. - - -	Haematopinus eurytenuis Nitz.
Sitka spruce weevil - - - - -	Pissodes sitchensis Hopk.
Smartweed flea beetle - - - - -	Systema hudsonias Forst.
Smut beetle a.n.o. - - - - -	Phalacrus politus Melsh.
Snowball aphid a.n.o. - - - - -	Aphis viburnicola Gill.
Snowy tree cricket a.n.o. - - - - -	Oecanthus niveus DeG.
Soft scale a.n.o. - - - - -	Coccus hesperidum L.
Sorghum webworm a.n.o. - - - - -	Celama sorghiella Riley
Sourgum case bearer - - - - -	Antispila nyssaefoliella Clem.
Southern buffalo gnat - - - - -	Eusimulium pecuarum Riley
Southern cabbage worm a.n.o. - - - -	Ascia protodice B. & L.
Southern corn stalk borer a.n.o. - - -	Diatraea crambidoides Grote
Southern cowpea weevil a.n.o. - - - -	Callosobruchus maculatus Fab.
Southern green stink bug a.n.o. - - - -	Nezara viridula L.
Southern pine beetle a.n.o. - - - - -	Dendroctonus frontalis Zimm.
Southern pine sawyer a.n.o. - - - - -	Monochamus titillator Fab.
Southern pine weevil - - - - -	Pissodes nemorensis Germ.
Southwestern corn borer a.n.o. - - -	Diatraea grandiosella Dyar
Spotted cucumber beetle a.n.o. - - - -	Diabrotica duodecimpunctata Fab.
Spotted-legged mosquito - - - - -	Psorophora columbiae Dyar & Knab
Spring canker worm a.n.o. - - - - -	Paleacrita vernata Peck
Spruce bud scale - - - - -	Physokermes piceae Schr.
Spruce budworm a.n.o. - - - - -	Harmologa fumiferana Clem.
Spruce gall aphid - - - - -	Chermes abietis L.

Spruce leaf miner - - - - -	<i>Argyroploce abietana</i> Fern.
Spruce mite - - - - -	<i>Paratetranychus uniunguis</i> Jacobi
Spruce needle miner - - - - -	<i>Epinotia nanana</i> Treit.
Spruce sawfly a.n.o. - - - - -	<i>Neodiprion abietis</i> Harr.
Squash beetle - - - - -	<i>Epilachna borealis</i> Fab.
Squash borer a.n.o. - - - - -	<i>Melittia satyriniformis</i> Hbn.
Squash bug a.n.o. - - - - -	<i>Anasa tristis</i> DeG.
Stable fly a.n.o. - - - - -	<i>Stomoxys calcitrans</i> L.
Stalk borer a.n.o. - - - - -	<i>Papaipema nebris nitela</i> Guen.
Sticktight flea a.n.o. - - - - -	<i>Echidnophaga gallinacea</i> Westw.
Strawberry crown borer a.n.o. - - -	<i>Tyloderma fragariae</i> Riley
Strawberry crown moth a.n.o. - - -	<i>Aegeria rutilans</i> Hy. Edw.
Strawberry leaf roller a.n.o. - - -	<i>Ancylis comptana</i> Froel.
Strawberry pamera - - - - -	<i>Orthaea vincta</i> Say
Strawberry root aphid a.n.o. - - - -	<i>Aphis forbesi</i> Weed
Strawberry root weevil - - - - -	<i>Brachyrhinus ovatus</i> L.
Strawberry weevil a.n.o. - - - - -	<i>Anthonomus signatus</i> Say
Striped cucumber beetle a.n.o. - - -	<i>Diabrotica vittata</i> Fab.
Striped flea beetle a.n.o. - - - - -	<i>Phyllotreta vittata</i> Fab.
Sugar-beet root aphid a.n.o. - - - -	<i>Pemphigus betae</i> Doane
Sugar-beet thrips - - - - -	<i>Heliothrips femoralis</i> Heeger
Sugarcane beetle a.n.o. - - - - -	<i>Eutheola rugiceps</i> Lec.
Sugarcane borer a.n.o. - - - - -	<i>Diatraea saccharalis</i> Fab.
Sugar-maple borer a.n.o. - - - - -	<i>Glycobius speciosus</i> Say
Sweetpotato flea beetle a.n.o. - - -	<i>Chaetocnema confinis</i> Crotch
Sweetpotato leaf beetle - - - - -	<i>Typophorus viridicyaneus</i> Crotch
Sweetpotato weevil a.n.o. - - - - -	<i>Cylas formicarius</i> Fab.
Sweetpotato whitefly a.n.o. - - - - -	<i>Bemisia inconspicua</i> Quaint.
Sycamore lacebug - - - - -	<i>Corythucha ciliata</i> Say
Tarnished plant bug a.n.o. - - - - -	<i>Lygus pratensis</i> L.
Three-cornered alfalfa hopper - - -	<i>Stictocephala festina</i> Say
Three-lined fig tree borer - - - - -	<i>Ptychodes trilineatus</i> L.
Three-lined potato beetle a.n.o. - -	<i>Lema trilineata</i> Oliv.
Tobacco flea beetle a.n.o. - - - - -	<i>Epitrix parvula</i> Fab.
Tobacco thrips a.n.o. - - - - -	<i>Frankliniella fusca</i> Hinds
Tobacco worm a.n.o. - - - - -	<i>Phlegethontius quinqueraculata</i> Haw.
Tomato pin worm - - - - -	<i>Gnorimoschema lycopersicella</i> Busck
Tomato psyllid - - - - -	<i>Paratrioza cockerelli</i> Sulc
Tomato stilt bug - - - - -	<i>Jalysus spinosus</i> Say
Tropical rat mite a.n.o. - - - - -	<i>Liponyssus bacoti</i> Hirst
Tulip tree scale a.n.o. - - - - -	<i>Toumeyella liriiodendri</i> Gmel.
Turnip aphid a.n.o. - - - - -	<i>Rhopalosiphum pseudobrassicæ</i> Davis
Twig girdler a.n.o. - - - - -	<i>Oncideres cingulatus</i> Say
Two-marked treehopper - - - - -	<i>Enchenopa binotata</i> Say
Vagabond gall louse - - - - -	<i>Mordwilkoja vagabunda</i> Walsh
Vegetable weevil a.n.o. - - - - -	<i>Listroderes obliquus</i> Gyll.
Velvetbean caterpillar a.n.o. - - -	<i>Anticarsia gemmatilis</i> Hbn.
Walkingstick a.n.o. - - - - -	<i>Diapheromera femorata</i> Say
Walnut caterpillar a.n.o. - - - - -	<i>Datana integerrima</i> G. & R.
Western spotted cucumber beetle a.n.o.	<i>Diabrotica soror</i> L.
Western striped cucumber beetle a.n.o.	<i>Diabrotica trivittata</i> Mann.
Western tent caterpillar a.n.o. - -	<i>Malacosoma pluvialis</i> Dyar
Wheat head armyworm a.n.o. - - - - -	<i>Neleucania albilinea</i> Hbn.
Wheat joint worm a.n.o. - - - - -	<i>Harmolita tritici</i> Fitch
Wheat stem maggot a.n.o. - - - - -	<i>Meromyza americana</i> Fitch

Wheat stem sawfly a.n.o. - - - - -	Cephus cinctus Nort.
Wheat straw worm a.n.o. - - - - -	Harmolita grandis Riley
White-lined sphinx a.n.o. - - - - -	Sphinx lineata Fab.
White-marked spider beetle a.n.o. -	Ptinus fur L.
White-marked tussock moth a.n.o. -	Hemerocampa leucostigma S. & A.
White oak club gall - - - - -	Andricus clavulus Q.S.
White oak mite - - - - -	Tetranychus willamettei McG.
White peach scale a.n.o. - - - - -	Aulacaspis pentagona Targ.
White-pine weevil a.n.o. - - - - -	Pissodes strobi Peck
Willow curculio - - - - -	Cryptorhynchus lapathi L.
Woolly apple aphid a.n.o. - - - - -	Eriosoma lanigerum Hausm.
Woolly beech aphid - - - - -	Prociphilus imbricator Fitch
Woolly elm aphid a.n.o. - - - - -	Eriosoma americanum Riley
Woolly larch aphid - - - - -	Chermes strobilobius Kalt.
Woolly maple leaf scale - - - - -	Phenacoccus acericola King
Yellow-necked caterpillar a.n.o. - -	Datana ministra Drury
Yellow-striped armyworm a.n.o. - - -	Prodenia ornithogalli Guen.
Zebra caterpillar a.n.o. - - - - -	Mamestra picta Harr.

