

THE INSECT PEST SURVEY
BULLETIN "—d"

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

Volume 9

June 1, 1929

Number 4

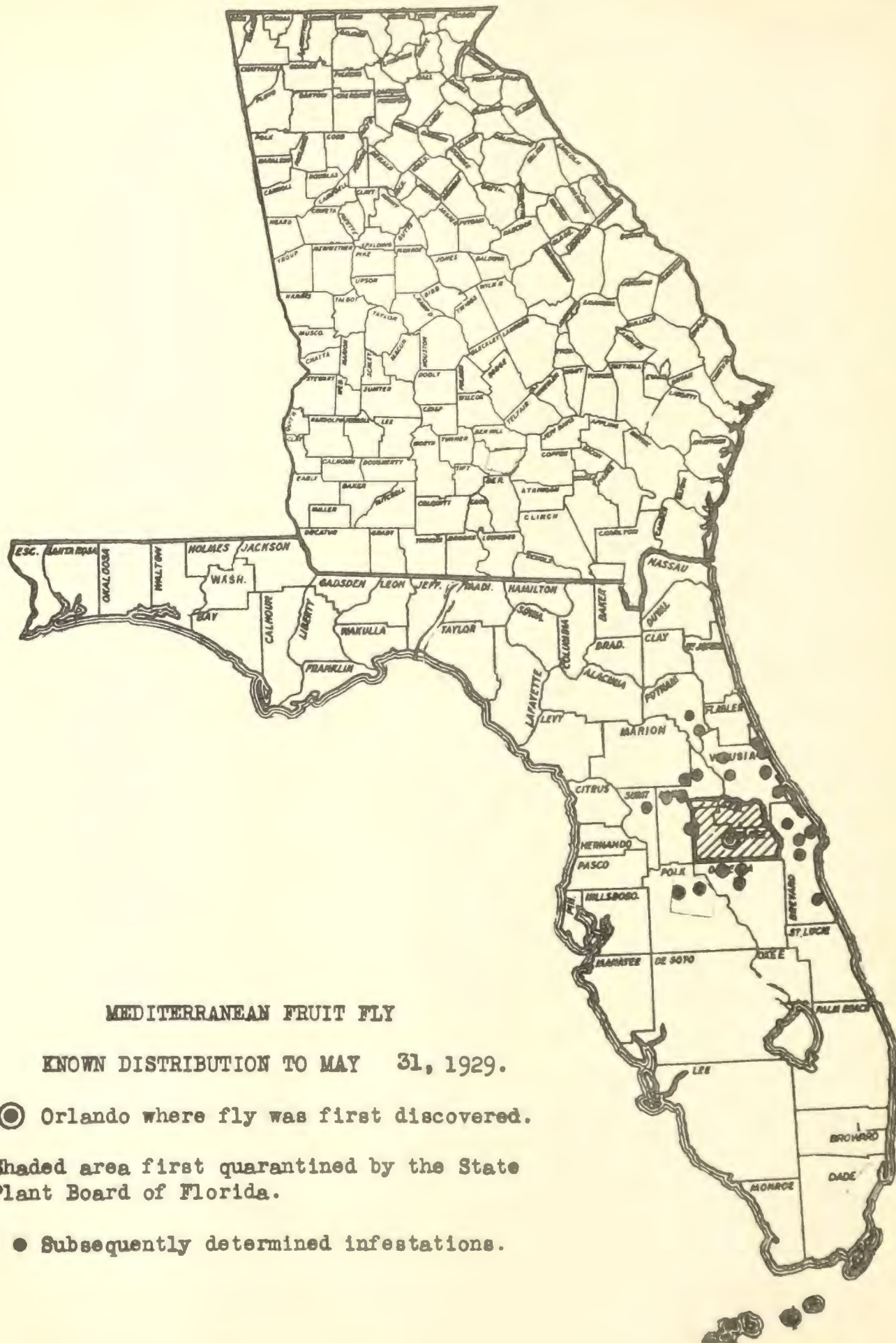
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MEDITERRANEAN FRUIT FLY

KNOWN DISTRIBUTION TO MAY 31, 1929.

◎ Orlando where fly was first discovered.

Shaded area first quarantined by the State Plant Board of Florida.

● Subsequently determined infestations.

INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR MAY, 1929.

During the past month only three additional counties contiguous to the territory recorded in the last number of the Survey Bulletin have been added to the area known to be infested by the Mediterranean fruit fly in Florida. Infested Florida fruit has been intercepted in New York, Ohio, North Carolina, Georgia, Louisiana, Arkansas, and Texas.

The first adult of Brood III of the periodical cicada was recorded from Mt. Pleasant, Iowa, on May 28.

Heavy oviposition by grasshoppers took place last fall in the western part of North Dakota and South Dakota. Although no eggs had hatched by the middle of May, trouble is anticipated in that region.

Wireworm depredations continued to be reported from practically the entire United States. The new species of wireworm Heteroderes laurentii Guer. is appearing in southern Alabama more numerous than during the past several years. Very serious wireworm depredations by Pheletes spp. have been reported from Idaho and California.

Although but little trouble is being reported over the greater part of the Hessian fly territory, southern Illinois and Indiana are experiencing a very severe infestation by this insect. In parts of Illinois 51 per cent of the plants are infested and in Indiana much of the grain acreage is being plowed under.

Reports from the Gulf region of extreme abundance of the corn ear worm this early in the season may lead to unusually heavy infestations farther northward as the season advances.

The fall armyworm is reported quite generally over the Gulf region from Florida to Louisiana in epidemic numbers.

Fruit aphids, in general, are not so abundant as usual, except in Oregon, whence reports of severe infestations have been received.

No change in the normal abundance of the codling moth reported in the last number of the Bulletin has apparently taken place during May.

The San Jose scale conditions throughout the eastern part of the United States are generally quite favorable, light infestations are being reported over practically all of the Eastern States. In the Pacific Northwest, however, very severe injury is anticipated this year, largely because of unfavorable weather conditions during the dormant spray period.

The heavy plum curculio infestations of the South Atlantic States reported in the last number of the Bulletin have developed to even more serious proportions during the last month. First-generation beetles will probably appear early in June in the Ft. Valley section of Georgia and will undoubtedly do very serious damage to the small crop of fruit which the overwintering weevils left. This serious condition extends from Maryland to Alabama.

The raspberry fruit worm, which has been so seriously injuring loganberries in Washington State, seems more prevalent than heretofore and has even been observed this year destroying strawberry and occasionally injuring the petioles of cherry and apple.

Mole cricket damage is being reported quite generally over the coastal plains region from North Carolina to Florida and in southern Alabama.

The Colorado potato beetle is now being reported in the big potato-growing section about Hastings, Fla., having extended into this territory last year. A rather unusual infestation of asparagus by the adult beetles is reported from Michigan.

A very unusual infestation of strawberry crowns by the larvae of a buprestid, Chrysobothris pubescens Fall, is reported from Washington State. A similar report was received last November from Oregon.

The Mexican bean beetle first appeared in the field in Delaware May 1. Over the newly infested regions of Maryland and Virginia it is appearing in considerable numbers. By the middle of the month it was found in the field in central Ohio.

A very serious disease of beans which makes the growth of the crop practically impossible in Haiti, except at the highest altitudes, has been found to be associated with a small green leafhopper.

The beet leafhopper seems to be at a low ebb of abundance in the Great Basin beet-growing sections. It is reported to be moderately abundant in eastern Oregon and it invaded the Willamette Valley in 1926.

Very serious infestations of aphids on lettuce are reported from the Salinas Valley in California. By the end of April approximately 12,000 acres were seriously infested and a loss of 50 per cent is anticipated.

The satin moth has been found at Olympia, Wash., which is considerably south of the territory hitherto known to be infested in the State.

The European willow beetle, which was first observed in Delaware in the spring of 1928, is now rapidly defoliating the trees in Newark.

The first record of the boxwood leaf miner in the Pacific Northwest was made at Seattle, Wash., on May 18.

Reports of serious annoyance to commercial squab raisers because of infestation of the squabs by the pigeon hippoboscid are reported from South Carolina, Florida, California, and Costa Rica.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

North Carolina Z. P. Metcalf (May 27): Grasshoppers are moderately abundant and causing injury to tobacco in Bertie County.

Florida J. R. Watson and E. W. Berger (May 21): Grasshoppers are very abundant over the State, especially in the Everglades. The lubber grasshopper is the worst.

F. S. Chamberlin (May 14): Grasshoppers are unusually abundant in Gadsden County.

North Dakota J. A. Munro (May 16): There was heavy oviposition by Melanoplus bivittatus Say during the past season and serious outbreaks in the western part of the State are predicted if weather remains favorable for their development.

South Dakota H. C. Severin (May 18): We expect trouble from Melanoplus atlantis Riley, M. bivittatus Say, and M. differentialis Thos. in the counties of Lyman, Brule, Jones, Stanley, and Hughes. Eggs are not yet hatched.

Alabama J. M. Robinson (May 23): The lubber grasshopper is very abundant at Uniontown.

Wyoming Harvey L. Sweetman (May 20): Numerous species of grasshoppers are active over the State.

CLEAR-WINGED GRASSHOPPERS (Camnula pellucida Scud.)

Oregon Don C. Mote (April 29): In eastern and southern Oregon this insect and several others are very abundant.

WIREWORMS (Elateridae)

Maine C. R. Phipps (May 21): Melanotus sp. is moderately abundant in the State. Agriotes mancus Say is moderately abundant in the central part of the State.

North Carolina J. N. Tenhet (May 15): A wireworm, Monocrepidius sp., has been doing considerable injury to string beans in the vicinity of Chadbourn.

Z. P. Metcalf (May 27): Wireworms are very abundant in cornfields in the eastern part of the State.

Michigan R. H. Pettit (May 17): Adults are plentiful in parts of the State.

Iowa Carl J. Drake (May 20): Wireworms are abundant, largely in low areas.

- Missouri L. Haseman (May 24): Wireworms throughout Missouri are very abundant. Adults as well as larvae of different species have been observed.
- Alabama J. M. Robinson (May 23): Wireworms in Mobile and Baldwin Counties are very abundant. Corn replanted four times with irregular stand.
- Mississippi R. W. Harned (May 8): Specimens of wireworm mailed from Taylorsville on May 2, with following statement. "I am mailing a worm that I have found eating the bark from young cotton in my field. I have a good deal of damage by this worm."
- Oregon Don C. Mote (April 29): Wireworms are found throughout the State, and are moderately abundant to very abundant. Many species are present.
- California E. O. Essig (May 19): Wireworms are moderately to very abundant in small localities throughout the State.

SAND WIREWORM (Horistonotus uhlerii Horn)

- South Carolina M. H. Brunson (May 18): The sand wireworm is moderately abundant in Hampton and adjoining counties.

J. N. Tenhet (May 24): Injury by this species to corn, cotton, etc., has been very severe and over a larger territory around than ever before. Practically all crops attacked, but corn and cotton injured the worst.

A WIREWORM (Heteroderes laurentii Guer.)

- Alabama K. L. Cockerham (May 21): Field observations in Baldwin County reveal adults of H. laurentii more numerous than at any time during the past several years. Considerable damage to Irish potatoes is reported by O. T. Deen and L. L. Odom. As many as 10 adults could be collected under a single Irish potato vine where the vines had been left lying on the ground after the harvester. Other suitable rubbish also revealed adults hiding beneath it. Indications seem to point to severe damage to the sweet-potato crop in these localities.

A WIREWORM (Pheletes occidentalis Eand.)

- Idaho C. Wakeland (May 21): Wireworms, P. occidentalis, are extraordinarily injurious this season. The late, cool, damp weather has retarded plant growth and brought the germination period of seeds at about the time of greatest wireworm activity. It is too early yet to get many reports of injury to corn and potatoes. Injury to grain crops is more severe than ever before and many wheat fields have been nearly ruined.

SUGAR-BEET WIREWORM (Pheletes californicus Mann.)

California Roy E. Campbell (May 15): Several hundred acres are being treated to control wireworms at Smeltzer, Orange County. Baits planted in 2½-foot rows are collecting an average of approximately 1 wireworm to the foot of row over the entire area. About the same in abundance compared with an average year; 80 acres of corn averaged 40 per cent damage, 10 acres so severely damaged that replanting was required, 50 acres had 50 per cent damage at Temple (near Alhambra). Baits in a plot 38 by 80 feet left 6 days collected 3,500 wireworms, indicating an excess of 68,000 worms per acre.

WHITE GRUBS (Phyllophaga spp.)

Massachusetts A. I. Bourne (May 23): At Amherst white grubs were noted first on May 15.

Indiana J. J. Davis (May 28): Tiphia cocoons (Phyllophaga parasites) were observed as abundant behind the plow at Windfall May 15, indicating abundance of grubs last year and a high degree of parasitism.

Illinois J. H. Bigger (May): Phyllophaga are scarce in central Illinois. Brood C of Phyllophaga observed abundant in a single field near Jacksonville early in April.

C. C. Compton (May 15): A few Phyllophaga fusca Froel. taken at lights at Arlington Heights on May 13, this being the first collection.

Kentucky H. Garman (May): Adults of Phyllophaga gibbosa Burm., P. fusca Froel., P. hirticula Knoch are common.

Michigan R. H. Pettit (May 22): Adults of June beetles are exceptionally plentiful with the southern half of the State badly infested. An attempt is being made to chart the distribution of the adults.

Wisconsin E. P. Breakey (May 23): Beetles are beginning to appear.

Minnesota A. G. Ruggles and assistants (May): White grubs are generally scarce to moderately abundant over the greater part of the Southern third of the State. They have been reported as very abundant in Chokio only.

Iowa Carl J. Drake (May 20): White grubs are moderately to very abundant in eastern part of the State. Brood A appears every three years.

C. N. Ainslie (May 13): Great numbers of these larvae

were found in the vicinity of Sioux City this spring. The chilly weather has hindered the flight of the adults until now, but many are just below the surface. The larvae are of various instars, a great many being nearly mature and attacking corn, lawns, etc.

Missouri L. Haseman (May 24): White grubs throughout the State are very abundant, but the adults are not yet abundant.

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey H. B. Weiss (April 20): Depending on section of State, the beetles are abundant to very abundant, scarce to absent. (May 18): The Japanese beetle grubs are very abundant, especially in the city of Trenton in grass lawns.

CUTWORMS (Noctuidae)

Maine C. R. Phipps (May 21): Agrotis c-nigrum L. is moderately abundant on blueberry in Cumberland and Hancock Counties.

Maryland E. N. Cory (May 6): Reported moderately abundant on spinach.

Virginia P. J. Chapman (May 22): Cutworms are moderately abundant on cucumber, beans, carrots, and cabbage.

North Carolina C. H. Brannon (May 18): Cutworms have caused very severe damage to tobacco this season. Many fields have been set three times. Much damage has also been caused to field and garden crops in general.

South Carolina M. H. Brunson (May 18): Agrotis ypsilon Rott. is moderately abundant.

Florida J. R. Watson and E. W. Berger (May 21): Cutworms are very abundant over the State.

Kentucky H. Garman (May): Cutworms are destructive at Eminence, Agrotis ypsilon Rott. occasionally seen, Agrotis c-nigrum L. frequently seen.

Minnesota A. G. Ruggles and assistants (May): Cutworms are being reported in the usual numbers throughout the southern part of the State, and there are reports of very severe depredations from Grand Rapids, Tracy, and Norman County.

Iowa C. J. Drake (May 22): Cutworms, several species, are quite abundant in some cornfields and gardens throughout a large portion of the State.

Nebraska M. H. Swenk (May 19): The spotted cutworm was reported from Lincoln on May 19 as moderately abundant.

Alabama J. M. Robinson (May 23): At Brewton cutworms are moderately abundant on corn.

Mississippi R. W. Harned and assistants (May): Cutworms were reported as moderately abundant at Lucedale, Wiggins, Gulfport, and Houston, and as scarce at Pascagoula, Ocean Springs, Holly Springs, and Jackson.

Idaho C. Wakeland (May 21): Cutworms are quite abundant and injurious in a few grain fields and many gardens.

Oregon Don C. Mote (April 29): Cutworms (many species) throughout the entire State are very abundant.

PALE WESTERN CUTWORM (Porosagrotis orthogonia Morr.)

Kansas J. W. McColloch (May 6): A farmer at Oakley reports that a cutworm has killed out 1,000 acres of wheat. He states that the worms work entirely below ground and cut the plants off. His description of the worm and its injury suggests the pale western cutworm. This insect has been taken in this area in previous years.

BERTHA ARMYWORM (Barathra configurata Walk.)

North Dakota J. A. Munro (May 16): The Bertha armyworm was prevalent in northern counties last season attacking sweet clover, flax, and other crops. Farmers in those counties report the plowing up of many pupae this spring in fields which were infested last season. This pest is widely spread over the Canadian provinces and has only during the past season spread into North Dakota to such an extent that it is considered a real pest.

CEREAL AND FOREST-CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Indiana J. J. Davis (May): The Hessian fly is very abundant from Terre Haute to Evansville and about two counties wide from the Illinois line. The fly appeared early before wheat had made much growth and as a result wheat was killed as in the fall and large acreages will be plowed under.

Illinois W. P. Flint (May): Infestation by the spring brood of the Hessian fly will be moderately heavy, judging from the few fields in west-central Illinois made by J. H. Bigger showed 51 per cent of the plants infested. The number of maggots per plant runs from 1 to 17.

J. H. Bigger (May): Wheat tillered abundantly. The Hessian fly was moderately abundant in central Illinois, but small loss is likely.

Missouri L. Haseman (May 24): Throughout the State the Hessian fly is moderately abundant; it is on the increase over the wheat-growing section of the State.

Kansas J. W. McColloch (May 20): The heaviest infestation of the Hessian fly this spring appears to be in central and southern Kansas. It is spotted and little injury has been reported.

CHINCH BUG (Blissus leucopterus Say)

Illinois J. H. Bigger (May): The chinch bug is scarce, being less abundant than for many years in central Illinois.

A BEETLE (Anomala binotata Gyll.)

Nebraska M. H. Swenk (May 21): A Knox County correspondent reported under date of May 13 that A. binotata was so abundant in his oat fields that just before sundown the beetles gave the appearance of a swarm of bees.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

Florida J. R. Watson and E. W. Berger (May 21): The corn ear worm is very abundant over most of the State.

Alabama J. M. Robinson (May 23): Throughout the State the corn ear worms are moderately abundant.

O. T. Deen (May 9): This insect is working on at least 95 per cent of tomato fruit at Grand Bay and attacking foliage also.

K. L. Cockerham (May 9): This insect was reported by S. C. Brummatt at Grand Bay. It was causing severe damage to a 4-acre bean field. The larvae were feeding on the pods.

Ohio and Mississippi T. H. Parks (May 15): These larvae were sent in by a wholesale merchant of Akron, Ohio, who complained of their damaging green beans shipped in from the State of Mississippi. Larvae were from one-fourth to three-fourths grown when received.

Mississippi R. W. Harned and assistants (May): The corn ear worm was reported as very abundant at Copiah, Laurel, and Ocean Springs, and moderately abundant at Moss Point, Durant, Lucedale, and Wiggins.

K. L. Cockerham (May 10): The larvae of this insect are doing severe damage to early corn in the vicinity of Biloxi. They destroy the young tassels as they come out and prevent the formation of pollen. They are also attacking young tomatoes.

So far the injury by this insect is more severe than for several preceding years at the same date.

- Louisiana W. E. Hinds (May 29): The corn ear worm is very abundant.
- Texas F. L. Thomas (May 22): In Brazos and Williamson Counties the corn ear worm is more abundant than usual.
- S. W. Clark (April 8): This insect is attacking tomatoes at Weslaco, and has been observed in normal abundance.

Haiti R. C. Smith (May 6): It is usually stated here that sweet corn can not be grown in Haiti because of ants, white grubs, and wireworms on the roots, and ants, Polistes with other wasps, and leafhoppers on the foliage. We succeeded by constant watching in growing some sweet corn which was, however, unfit for food because of the attacks of the corn ear worm. From 1 to 5 larvae occurred in each ear. The same varieties of colors of larvae were evident.

STALK BORER (Papaipema nebris nitela Guen.)

- Maine C. R. Phipps (May 21): The stalk borer is destructive to flowers.
- New Jersey H. B. Weiss (April 20): The stalk borer is generally distributed over the State in moderate abundance.
- Minnesota A. G. Ruggles and assistants (May): The stalk borer was reported as very abundant on dahlias at Austin, and moderately abundant in Rice, Fillmore, and Cottonwood Counties, but scarce in other parts of the State.
- Missouri L. Haseman (May 24): This insect has not yet attracted any attention, probably because of the late spring.
- Mississippi R. W. Harned (May 23): Larvae identified by J. M. Langston as the moth stalk borer were collected in a tomato stalk at Crystal Springs on May 13.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

- Florida J. R. Watson (May 22): Around Blountstown in western Florida there is a heavy infestation of the fall armyworm. It is in this region that previous outbreaks have first occurred and the present outbreak may mean a considerable number of these insects during the coming summer.
- Alabama S. C. Brummitt (May 23): Severe injury to corn and other field crops was reported from Grand Bay.
- J. M. Robinson (May 23): Destroying corn, grass, cotton, etc..

in Baldwin, Escambia, and Hale Counties, and in other counties destroying only corn and cotton.

Mississippi

R. W. Harned and assistants (May): Reports of a rather serious outbreak of the southern grassworm have been received from several counties in the southern part of the State, including George, Stone, Harrison, Jackson, and Perry. The first specimens received at this office arrived on May 12 from Lucedale, George County, with the information that the worms were causing serious damage to grass and beginning to attack corn. A 90 per cent infestation of the grassworm was reported in one cornfield at Perkinston May 14. Such serious injury was caused to young corn on two farms in Jackson County that it was replanted. The outbreak at Wiggins has caused serious damage to corn, sugarcane, and cotton. Over 100 acres of corn were totally destroyed. In one field they destroyed several acres of cotton before they were checked with spray. One newcomer from the West planted about an acre of barley. The stand was good until the grassworm went through it, leaving bare ground behind. The injury is already done. Parasitism is quite small. I examined 100 larvae at different parts of a field and found one larva bearing one parasitic egg.

W. E.

Louisiana

T. E. Holloway and/Haley (May 16): The southern grassworm was found on young corn in Jefferson Parish. Some of the larvae were full-grown. One moth was seen.

CORN BILLBUGS (Solenophorus spp.)

Florida

J. R. Watson and E. W. Berger (May 21): Billbugs are moderately abundant.

Iowa

C. J. Drake (May 22): Corn billbugs just received at Tilton from a farmer who stated that the bugs were extremely abundant and destroying his corn.

CORN LANTERN FLY (Peregrinis maidis Ashm.)

Florida

J. R. Watson (May 22): A lantern fly, P. maidis, is doing damage to corn about Gainesville. This insect is usually very injurious to late-planted corn which it attacks in July, but it is unusual to have an infestation so early in the season.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

South Carolina

M. H. Brunson (May 22): The sugarcane beetle has been damaging corn at Westminster.

Mississippi

R. W. Harned (May 17): On April 27 county agent J. S. McBee, Columbus, sent specimens with the following comment: "They are proving very disastrous to the corn in the garden of one of our farmers."

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- Ohio H. C. Mason (May 15): The spotted cucumber beetle was observed in the field at Columbus on May 16.
- North Carolina C. H. Brannon (May 20): Root worm damage to corn has been very severe over the State this season. Many fields have been replanted owing to the damage by this insect.
- Florida J. R. Watson and E. W. Berger (May 21): The spotted cucumber beetle is moderately abundant over the State.
- Mississippi R. W. Harned and assistants (May): On April 26 a correspondent at Auburn, Lincoln County, sent in a number of larvae that were identified by J. M. Langston as D. duodecimpunctata, with the comment: "They have totally ruined this corn in a few days." Inspector Kimble Harmon on April 22 observed cucumber beetles appearing in considerable numbers on orange trees. He sent 5 specimens, 4 of which proved to be D. vittata Fab. and the other the above-named species. Specimens of the 12-spotted cucumber beetle were sent from Mize May 5 and from Lena May 10 with the information that they were causing serious injury to watermelon plants. Specimens were reported as injuring roses at Columbus May 8. Larvae were received May 30 from Bentonina, where they were reported as seriously injuring young corn.
- K. L. Cockerham (April 27): These adults have been injuring gladiolus blossoms and spikes at Biloxi this spring. By eating the flowering buds as they open they so disfigure them that they are unmarketable.
- Louisiana W. E. Hinds (May 29): The spotted cucumber beetle is very abundant in Plaquemines Parish.
- Texas F. L. Thomas (May 22): This insect is found throughout the State in moderate abundance.
- Arizona O. L. Barnes (May 18): The spotted cucumber beetle is very abundant and doing some damage to squashes about 6 miles north of Phoenix.

COMPEAS

COMPEA CURCULIO (Chalcodermus aeneus Boh.)

- Georgia O. I. Snapp (May 16): This insect is more abundant than usual this year at Fort Valley.

GRASS

FALSE CHINCH BUG (Nysius ericae Schill.)

Arizona

O. L. Barnes (May 6-7): The false chinch bug was found very abundant in a few small areas near Phoenix attacking grass, tamarisk, and small citrus. They were more abundant in non-irrigated plots and in land that was not recently irrigated.

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Wyoming

H. L. Sweetman (May 20): Alfalfa weevil egg laying commenced about May 15 at Casper.

Idaho

C. Wakeland (May 21): Adults of the alfalfa weevil are very scarce and larvae are not abundant enough to cause injury in the southern and southwestern parts of the State; 500 sweeps of the net May 18 resulted in the capture of 5 adults and 39 larvae and also 25 adults of the alfalfa weevil parasite, Bathyplectes curculionis Thoms.

Nevada

G. G. Schweiss (May 7): The first eggs of the alfalfa weevil were found today, which is late compared with other years. Weather has been bad and temperatures below normal.

Oregon

D. C. Mote (April 29): In eastern Oregon the alfalfa weevil is moderately abundant.

PEA APHID (Illinoia pisi Kalt.)

Wisconsin

J. E. Dudley, Jr. (May 1): General hatching of winter eggs during the unusually warm period the latter part of March in Dane, Jefferson, and Columbia Counties. On account of the continued cool, rainy weather throughout most of April there has been little increase in population. There is at present a general infestation of stem mothers but very little reproduction. A few fields of early peas are up but so far they have not been infested.

Mississippi

M. H. High (April 30): The pea aphid has suddenly showed up at Gulfport and has seriously injured one field of peas near Landon. This is the first time I have observed this aphid in injurious numbers in a number of years.

Utah

G. F. Knowlton (May 8): The pea aphid is quite abundant on young alfalfa at Woods Cross and Bountiful.

POTATO APHID (Illinoia solanifolii Ashm.)

Nevada

G. G. Schweiss (May 20): The alfalfa aphid (Illinoia solanifolii (creeli)) was observed on May 18 doing considerable damage at Reno. (April 24): The only outbreak of insects reported has been that of aphids on alfalfa in Clark County.

CLOVER

CLOVER APHID (Anuraphis bakeri Cowan)

Minnesota

C. A. Anderson (May 14): The clover aphid is appearing and starting to do damage at Littlefork.

CLOVER SEED MIDGE (Dasyneura leguminicola Lint.)

Oregon

D. C. Mote (April 29): This insect is very abundant throughout the State.

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

APPLE

APHIDS (Aphidae)

Massachusetts

A. I. Bourne (May 23): Early in the season there was an unusual abundance of plant lice at Amherst. Every indication pointed to their being a serious problem of the fruit grower, but the cold weather has so reduced their number that several growers are safely leaving nicotine out of their calyx sprays.

Connecticut

M. P. Zappe (May 24): Green aphids have been abundant on opening buds. Many orchards have few left. Some rosy aphids are present and are beginning to roll leaves.

Michigan

R. H. Pettit (May 17): Bud lice, the rosy apple aphid, and probably A. pomi DeG. are abundant in the State.

Minnesota

A. G. Ruggles and assistants (May): Aphids are reported as generally scarce over the southern third of the State, the only places reporting unusual abundance being Mower and Redwood Counties.

Alabama

J. M. Robinson (May 23): Fruit aphids are very abundant throughout the State.

APPLE APHID (Aphis pomi DeG.)

New York

Weekly News Letter, N. Y. State College of Agr., May: Over the greater part of the fruit belt aphids are unusually scarce,

the single exception being Chautauqua County in the western part of the State, where there are indications of serious trouble from these insects. (abstract J. A. H.)

Maryland

E. N. Cory (May 6): Green apple aphids are very abundant in the State.

Oregon

D. C. Mote (April 29): This insect is occurring throughout the State in great abundance.

ROSY APPLE APHID (Amuraphis roseus Baker)

New York

Weekly News Letter, N. Y. State College of Agr., May: In general the rosy apple aphid is scarce over the fruit belt, the only exception being Chautauqua County. (abstract J. A. H.)

Virginia

W. J. Schoene (May 24): Spring migrants of Aphis sorbi were leaving the apple trees at Hollins in large numbers on May 11. The aphids occurred in large numbers on curled leaves on some trees. Generally speaking, the infestation was mild.

Indiana

J. J. Davis (May 28): The rosy apple aphid was reported under date of May 12 by L. F. Steiner from Bedford to the effect that this aphid has been causing considerable damage in some orchards around Bedford since the latter part of April. It is moderately abundant in southern Indiana.

Mississippi

H. H. Carpenter (May 21) The rosy apple aphid is very abundant at Houston and Okolona.

Oregon

D. C. Mote (April 29): This insect is found throughout the State in great abundance.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York

Weekly News Letter, N. Y. State College of Agr., May: This species is unusually abundant in Seneca, Orleans, Orange, Dutchess, Ontario, and Ulster Counties. (abstract J. A. H.)

Pennsylvania

T. L. Guyton (May 21): Rhopalosiphum prunifoliae is very abundant.

Maryland

E. N. Cory (May 6): This species was abundant early in the spring.

Virginia

W. J. Schoene (May 24): The grain aphid, Aphis avenae, had largely left the trees about two weeks prior to May 11.

South Carolina

M. H. Brunson (May 23): Apple grain aphids are very abundant in the college apple orchards at Clemson College.

Ohio

T. H. Parks (May 25): This plant louse was more abundant than usual on the buds during April and colonies developed on

the leaves during the first half of May. By May 20 they had grown wings and disappeared from the trees and apparently little damage has been done.

Wisconsin E. P. Breakey (May 23): Aphis avenae is quite abundant.

CODLING MOTH (Carpocapsa pomonella L.)

New York Weekly News Letter, N. Y. State College of Agr., May 20: Codling moth pupae were observed under bands in Orange County on May 15. Many larvae had not pupated on that date.

Delaware H. L. Dozier (May 18): The codling moth is now issuing from hibernation in abundant numbers.

Virginia W. J. Schoene (May): The first adult moth emerged at Hollins on April 18. Up to May 16, 258 moths had been secured, 199 worms, and 759 pupae.

Ohio T. H. Parks (May 25): The codling moth is emerging very late from the overwintering cocoons under bark. Emergence commenced at Cincinnati and Columbus on May 24. Previous to that date only stragglers located on south exposures had emerged. The brood is apparently below normal in numbers.

Indiana J. J. Davis (May): The codling moth is moderately abundant.

Illinois S. C. Chandler (May 13): The first codling moth emerged at Carbondale on April 19, and emergence increased daily to May 13. It is now moderately abundant.

W. P. Flint (May): While the codling moth started emerging in Mr. Chandler's cages in southern Illinois on April 19, the weather following this period has been very cool and only small numbers of moths have emerged in the south end of the State. Emergence did not start in western Illinois until May 12 and in east-central Illinois on the same date. The bulk of emergence of the first brood will undoubtedly occur in both these sections during the next week.

Minnesota A. G. Ruggles and assistants (May): The codling moth is reported as very abundant at Austin, Tracy, and Chatfield, and from moderately abundant to scarce in other fruit-growing sections.

Nebraska M. H. Swenk (May 21): The codling moth larvae and pupae have been found moderately abundant at Lincoln.

Missouri L. Haseman (May 24): Emergence of the codling moth has been reported from Columbia, Marionville, St. Joseph, Seymore, Waverly, and Independence. The peak of emergence at Columbia was from May 20 to 25.

- Wyoming H. L. Sweetman (May 20): Overwintering codling moth larvae have pupated at Casper.
- Nevada G. G. Schweiss (May 20): The codling moth is moderately abundant at Reno.
- New Mexico J. R. Eyer (May 21): Adults captured in abundance in bait pans from April 25 to the present date; females containing eggs at State College.
- Idaho C. Wakeland (May 21): The codling moth is moderately abundant in southwestern Idaho. The first emergence was on May 13.
- Washington E. J. Newcomer (May 22): Moths began emerging about May 10 and owing to continued warm weather they are emerging rapidly. This should make the first brood relatively short.
- Oregon D. C. Mote (May 24): Adults began to emerge in the Willamette Valley on May 15 and eggs were laid May 23. Appears to be very abundant.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

- Maine C. R. Phipps (May 21): The eastern tent caterpillar is very abundant throughout the State.
- New Hampshire P. R. Lowry (May 17): The eastern tent caterpillar is moderately abundant on wild cherry and there are some on apple at Durham.
- Massachusetts A. I. Bourne (May 23): The tent caterpillars are less abundant than for several seasons at Amherst. In restricted areas they can still be found in considerable abundance. The cold, rainy season has slowed development of crops and pests so that they have not yet begun to make headway.
- J. V. Schaffner, Jr. (May 25): First hatching of M. americana of 1929 in vicinity of Melrose found on April 8. Infestation seems to be decreasing in some localities.
- Connecticut W. E. Britton (May 25): Cold weather with occasional frost has been unfavorable for the development of the larvae at Litchfield. There are very few nests this year.
- New York Weekly News Letter, N. Y. State College of Agr., May: These caterpillars are hatching in Chautauqua, Monroe, and Oswego Counties, and already abundant in Columbia County. (abstract J. A. H.)
- New Jersey H. B. Weiss (May 18): The eastern tent caterpillar is scarce in all parts of the State on wild cherry and apple.

- Pennsylvania T. L. Guyton (May 21): The eastern tent caterpillar is moderately abundant at Harrisburg and in the Philadelphia district. It is more abundant at Harrisburg than this time last year; in fact, last year it was to be found only occasionally, and this year it is found more or less scattered around the district.
- Delaware H. L. Dozier (May 18): The young worms and nests of the eastern tent caterpillar are abundant.
- Maryland E. N. Cory (May 6): This insect is moderately abundant; hatched in Calvert County on March 25.
- Virginia W. A. Thomas (May 1): This insect is attacking apples between Richmond and Washington, causing them to be badly defoliated.
- W. J. Schoene (May): There was a heavy infestation of the eastern tent caterpillar in unsprayed orchards throughout the central part of the State this year.
- West Virginia F. E. Brooks (May): For a few years this species has been increasing in West Virginia, especially in certain localities in the more elevated parts of the State. In the vicinity of Philippi, Barbour County, there are localities where practically every wild cherry, crab, and neglected apple tree is now almost or entirely defoliated. In a commercial apple orchard near Philippi, where spraying has been carefully done, no tents are to be seen.
- North Carolina W. A. Thomas (May 1): About 10 per cent of all wild cherry is defoliated at Chadbourn.

TENT CATERPILLARS (Malacosoma spp.)

- Washington W. W. Baker (May 23): The tent caterpillars M. disstria Hbn. and M. pluvialis Dyar appear much more widespread and more abundant than last year throughout western Washington, being particularly bothersome on home orchards and a few ornamental shrubs. The caterpillars are later in hatching than they were in 1928.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

- New York Weekly News Letter, N. Y. State College of Agr., May: The leaf rollers began hatching the first week in May in the Lake fruit belt. They seem to be quite generally prevalent throughout this region and the Hudson River Valley. (abstract J. A. H.)
- New Mexico J. R. Eyer (May 21): This insect is being caught in codling moth bait pans and appears to be very abundant.

Idaho C. Wakeland (May 21): The fruit tree leaf roller is present to a limited extent in practically all apple orchards in southwestern Idaho, but is of no commercial importance and has not been since 1924. Infestation in the Twin Falls vicinity last year was very severe resulting in from 25 to 35 per cent injured fruit in the fall in many commercial orchards. This season infestation is much lighter as indicated by counts of egg masses per tree for the two seasons.

Oregon D. C. Mote (April 29): Fruit tree leaf rollers are moderately abundant in the State but are not doing much damage now.

CASE BEARERS (Coleophora spp.)

New York Weekly News Letter, N. Y. State College of Agr., May: Case bearers, C. fletcherella Fern. and C. malivorella Riley, are reported as being more numerous than last year in Suffolk County and as occurring in rather threatening numbers in Erie, Ontario, and Chautauqua Counties. (abstract J. A. H.)

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

Massachusetts A. I. Bourne (May 23): Budmoths have been found to be moderately abundant this season, but never enough to demand particular attention at Amherst.

Connecticut M. P. Zappe (May 24): Young apple orchards in Litchfield County have been attacked and many terminal buds injured. The insect is webbing up leaves of older trees in Hartford County. More abundant than I have ever seen them before.

New York Weekly News Letter, N. Y. State College of Agr., May: Although reported from practically all of the fruit-growing counties, the eye-spotted budmoth is of serious importance in Dutchess, Monroe, and Ontario Counties only.

CANKER WORMS (Geometridae)

Kansas J. W. McColloch (May 20): Defoliation of elm and apple trees has been reported during the past week from Ozawie, Abilene, Salina, Solomon, and Manhattan.

Daily Eagle, May 12: Alfred McDonald, city forester at Wichita, states that spraying of street trees for canker worms is nearly ended, since the larvae have ceased feeding for the season. The canker worms have been injurious for the last 3 years, 1927, 1928, and 1929, and the city has carried on spraying in the more heavily infested neighborhoods. (abstract F. M. Wadley.)

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

Ohio T. H. Parker (May 25): The apple flea weevil is becoming a serious apple pest in several commercial orchards in central and southcentral Ohio. It has increased rapidly the past two years and has been feeding on the buds and leaves for the past six weeks. Regular sprays do not check it. Many larvae have now pupated in the mines in the leaves and such leaves appear as though scorched. Injury has been serious in only certain orchards of each county, and these orchards are under the sod mulch system.

APPLE REDBUG (Lygidea mendax Reut.)

New York Weekly News Letter, N. Y. State College of Agr., May: The first nymphs appeared in the lower Hudson River Valley during the first few days in May. Large numbers were reported later in the month from both the Hudson River Valley and the Lake fruit section. (abstract J. A. H.)

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Florida J. R. Watson and E. W. Berger (May 21): The San Jose scale is moderately abundant over the northern half of the State.

Illinois J. H. Bigger (May): The San Jose scale is scarce, although in isolated instances it is plentiful in Calhoun and Pike Counties.

Iowa C. J. Drake (May 20): The San Jose scale is doing considerable damage in the southeastern section of the State.

Mississippi R. W. Horned and assistants (May): The San Jose scale is reported as very abundant from practically all parts of the State where orchards are not commercially sprayed.

Texas F. L. Thomas (May 22): A few complaints have been received from northeastern Texas.

Idaho C. Wakeland (May 21): The San Jose scale will undoubtedly cause more loss in southern and southwestern Idaho this season than ordinarily owing to prolonged severe winds during the period for dormant spraying. Very ineffective spraying resulted and in some instances the dormant spray was omitted entirely.

Nevada G. G. Schweiss (May 20): This insect is moderately abundant.

Oregon D. C. Mote (March 29): This insect is found throughout the State in moderate abundance, but is very scarce in the vicinity of Corvallis.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Indiana J. J. Davis (May 28): This scale has been reported as destructive to lilac at Fowler May 20. It is normally abundant in the northern half of the State.

Michigan R. H. Pettit (May 17): The oyster-shell scale is rather plentiful.

Minnesota A. G. Ruggles and assistants (May): The oyster-shell scale is very abundant in Murray, Fillmore, Mower, Dodge, Ramsey, Redwood, and Lyon Counties, and moderately abundant over the remainder of the southern third of the State.

South Dakota H. C. Severin (May 18): Eggs of the oyster-shell scale came through the winter in excellent condition and are very abundant.

Nebraska M. H. Swenk (May 21): Apple orchards have been reported infested in northeastern Nebraska, especially in Butler, Wayne, Madison, and Cedar Counties.

SCURFY SCALE (Chionaspis furfura Fitch)

Nebraska M. H. Swenk (May 21): The scurfy scale was reported as very abundant in apple orchards in the northeastern part of the State, especially in Butler, Wayne, Madison, and Cedar Counties.

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

Maine C. R. Phipps (May 21): Eggs of this insect are very abundant. It was first recorded in Maine in 1927.

Massachusetts A. I. Bourne (May 23): This insect began to hatch at Amherst the first few days in May. It is about normal in abundance, but has been well taken care of in commercial orchards by spraying.

Connecticut P. Garman (May 24): The European red mite has been reported in the usual abundance on apples in New Haven County. It is controlled in most commercial orchards.

New York Weekly News Letter, N. Y. State College of Agr., May: These mites began hatching the last of April in the Hudson River Valley and during May they were reported from practically the entire fruit belt, but not in serious numbers. (abstract J. A. H.)

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

Connecticut P. Garman (May 24): This insect was observed to be moderately abundant in one pear orchard and scarce in all other visited in New Haven County.

M. P. Zappe (May): This insect appears to be less abundant than last year. Unsprayed trees show very few insects, even those that had an infestation last year.

New York Weekly News Letter, N. Y. State College of Agr., May: The pear psylla began hatching during the last part of April, but in decidedly smaller numbers than usual throughout the entire fruit belt. (abstract J. A. H.)

Delaware H. L. Dozier (May 17): Adults of the pear psylla started to issue at Wilmington on May 8.

PEAR MIDGE (Contarinia pyrivora Riley)

New York Weekly News Letter, N. Y. State College of Agr., May: Midge-infested pears are quite numerous in the Hudson River Valley, especially in Columbia and Dutchess Counties. (abstract J.A.H.)

PEAR LEAF BLISTER MITE (Eriophyes pyri Pagst.)

New York Weekly News Letter, N. Y. State College of Agr., May: This insect is reported as severe in some orchards in Ontario and Onondaga Counties. (abstract J. A. H.)

TARNISHED PLANT BUG (Lygus pratensis L.)

Washington E. J. Newcomer (May 22): This insect has done more damage to pears than usual. In a few cases it has practically ruined the crop by piercing the fruit buds.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Maryland E. N. Cory (May 6): The peach borer is appearing in plentiful numbers in untreated orchards.

South Carolina M. H. Brunson (May 18): This insect is moderately abundant.

Florida J. R. Watson and E. W. Berger (May 21): The peach borer is moderately abundant in the northern half of the State.

Iowa C. J. Drake (May 20): The peach borer is not common. Only one complaint has been received in 6 years.

Mississippi R. W. Harned and assistants (May): The peach borer is reported as very abundant in Durant, Jackson, Chickasaw, and Calhoun Counties, and moderately abundant in Gulfport, Wiggins, Yazoo City, Alcorn, Prentiss, Moss Point, Ocean Springs, and Laurel.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Pennsylvania T. L. Guyton (May 21): The oriental fruit moth is very abundant at Harrisburg.

Delaware H. L. Dozier (May 18): The majority of the oriental fruit moths have issued by this date.

Maryland E. N. Cory (May 6): Egg-laying has been delayed. Only a few eggs have been found.

North Carolina C. H. Brannon (May 15): This pest is causing unusually severe damage to peaches over all the State.

Georgia O. I. Snapp (May 16): The infestation of middle Georgia is light, as it was in 1928 at this season of the year. Larvae of the second generation have started to pupate.

Indiana J. J. Davis (May): The oriental fruit moth is very abundant in the southern portions of the State.

Illinois S. C. Chandler (May): Emergence of the oriental fruit moth from larvae held over winter in corrugated cardboard strips out of doors took place at Carbondale on April 6, when 90 per cent of the peach petals were off, and continued for one month, but 80 per cent emerged the first two days; 74 per cent of the larvae put into winter quarters failed to emerge, and hibernation studies showed that larvae under normal orchard conditions suffered a mortality of about the same severity. The first-brood infestation, as indicated by the wilted twigs, is light except in a few favored locations.

Michigan R. H. Pettit (May 17): Adults were out on April 26.

Alabama J. M. Robinson (May 23): This insect is moderately abundant throughout the State. Adults of the first generation emerged a week ago.

Mississippi R. W. Harned and assistants (May): The oriental fruit moth was reported as moderately abundant at Laurel and Holly Springs, and scarce at Okolona.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

New York Weekly News Letter, N. Y. State College Agr., May 27:

Plum curculio punctures began to appear during the last week of May in the Hudson River Valley. (abstract J. A. H.)

- Maryland E. N. Cory (May 6): The plum curculio is very abundant.
- Virginia P. J. Chapman (May 22): This insect is moderately abundant on peach, plum, and apple.
- West Virginia F. E. Brooks (May): This species has been late in appearing this spring, probably on account of the prolonged cool weather. Oviposition scars were not to be found in plums and other fruit near the middle of May, but by May 26 the scars were abundant.
- North Carolina C. H. Brannon (May 20): The curculio is causing unusually heavy damage to peaches this season. Specimens and complaints are being received from over all the State.
- Georgia O. I. Snapp (May 16): The heavy drop as a result of the plum curculio and weather conditions left a very light crop of peaches in many orchards. The first-generation beetles are expected from the soil early in June, and we anticipate much damage to the light crop in those orchards in which control measures have not been enforced, as the infestation is very heavy.
- Florida J. R. Watson and E. W. Berger (May 21): This insect is very abundant in the northern half of the State.
- Illinois J. H. Bigger (May): Examinations for the plum curculio were made in Pike County May 7, but the first adult was observed on May 11.
- S. C. Chandler (May): The curculio infestation is moderate in southern Illinois in peach orchards, and regular jarrings indicate that it will not be so severe as it was last season.
- Minnesota A. G. Ruggles and assistants (May): The plum curculio is moderately abundant throughout the fruit-growing section.
- Iowa C. J. Drake (May 20): This insect is fairly plentiful over the State.
- Alabama J. M. Robinson (May 23): The plum curculio is very abundant over the entire State.
- Mississippi R. W. Harned and assistants (May): The plum curculio is reported as worse than it has been for several years in Chickasaw, Calhoun, Lauderdale, Harrison, and Yazoo Counties, and moderately abundant throughout practically the remainder of the State.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York Weekly News Letter, N. Y. State College of Agr., May: The black cherry aphid is very numerous on sweet cherries in the Hudson River Valley.

Maryland J. A. Hyslop (May 29): Large colonies of these aphids are on the terminal leaves of all varieties of cherry (sweet and Japanese) at Avenel. The leaves are starting to curl.

WEEVILS (Dyslobus spp.)

Washington W. W. Baker (May 22): D. decoratus Lec. is numerous on cherry and hydrophyllum, and D. granicollis Lec. is numerous on cherry, wild gum, and salmonberry around Puyallup.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Georgia C. I. Snapp (May 16): This insect, which is usually abundant in middle Georgia, is apparently scarce this year. We have noted no damage in plum orchards and no complaints of damage have reached the laboratory.

Missouri L. Haseman (May 24): This insect is moderately abundant at Columbia.

Oklahoma C. E. Sanborn (May 21): Aphis setariae is moderately abundant.

THISTLE APHID (Aphis cardui L.)

Idaho C. Wakeland (May 21): Aphis cardui is very abundant on prunes in the southwestern part of the State. It is now curling the leaves badly and clustering on the fruit stems.

RASPBERRY

RASPBERRY FRUIT WORM (Bytorus unicolor Say)

Michigan R. H. Pettit (May 29): I received specimens of B. unicolor this morning from Berrien County, with the report that they are threatening the crops of this important small fruit district. I have not yet ascertained how widespread the infestation is, but from the tone of the writers, one would gather that they are considerably alarmed.

Washington W. W. Baker (May 22): The raspberry fruit worm, which has been very injurious to loganberries during the past two years,

seems much more generally prevalent judged by the occurrence of adults this spring. Numerous instances have been reported and observed of the feeding of adult beetles in the terminals of the new growth of raspberry, and this has been serious enough in some cases to interest growers to apply control measures. Adults have also been observed occasionally feeding on strawberry blossoms, often completely despoiling the flower and fruit. Petioles of cherry and apple are sometimes selected by the adults. Adults were first observed May 9 around Puyallup.

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

South Dakota

H. C. Severin (May 1): The usual number of complaints regarding this insect were received this year because of egg punctures to raspberry, chiefly, damage not usually being severe.

BLUE BERRY

Maine

C. R. Phipps (May 21): The following insects are moderately abundant on blueberry in Cumberland and Hancock Counties: Lycophotia occulta L., L. stricta Herr., Miselia purpurigera Walk and Lempra brunneicollis Grote.

GRAPE

APPLE TRIG BORER (Amphicerus bicaudatus Say)

Nebraska

M. H. Swenk (May 21): The grape cane borer was found injuring grapevines in Franklin County on April 22 and in Redwillow County on May 13.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Delaware

H. L. Dozier (May 18): The grape berry moth is issuing in stragglng numbers in overwintering cages at Newark and Camden.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Ohio

E. W. Mendenhall (May 27): I find the grape leaf folder doing some damage to the grape leaves at Columbus.

GRAPE SCALE (Aspidiotus uvae Comst.)

Missouri

L. Haseman (May 24): Mr. C.C. Bell of Boonville reports a serious epidemic of grape scale on his home vineyard.

CURRENT

CURRENT APHID (Myzus ribis L.)

New York Weekly News Letter, N. Y. State College of Agr., May: Late in April and early in May the current aphid was doing considerable damage in Ulster and Orange Counties and late in May it was found in some plantings in Chautauqua County. (abstract J. A. H.)

Ohio E. W. Mendenhall (April 29): The current aphid is beginning to show up on current leaves.

Minnesota A. G. Ruggles and assistants (May): Aphids are moderately abundant on currents at Warren.

Utah G. F. Knowlton (May 14): The current aphid, Coyptemyzus ribis, is beginning to cup the leaves on current bushes at Woods Cross, Brigham City, and Logan.

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

Mississippi J. E. McEvelly (May 22): This insect has been moderately abundant on cultivated blueberry plantings in the vicinity of Laurel.

CURRENT FRUIT FLY (Epochra canadensis Loew)

Washington S. E. Crumb (May 22): Adults of the gooseberry fruit fly were observed ovipositing May 15 at Puyallup.

PECAN

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Mississippi R. W. Harned (May 25): The walnut caterpillar is very scarce in the vicinity of A. & M. College, as I have examined several thousand trees and found only two colonies.

Texas C. B. Nickels and C. C. Pinkney (May 21): Many egg masses of the walnut caterpillar have been observed on pecan trees in central Texas. There are large numbers of pupae still in the soil. It seems to be more abundant than last year.

A CASE BEARER (Acrobasis caryivorella Rag.)

Georgia T. L. Bissell (May): Pecan shoots infested with larvae were taken at Experiment April 24 and at Barnesville April 26. Three moths emerged May 16, 17, and 23. This insect is commonly found mining and killing green shoots of young trees in this region.

HICKORY SHOOT CURCULIO (Conotrachelus aratus Germ.)

Mississippi

R. W. Harned (May 17): Nearly grown larvae of the hickory shoot curculio were collected on pecan trees near Tylertown April 27. Inspector N. D. Peets reports as follows: "I believe that I am safe in saying that this insect is damaging this pecan orchard fully 50 per cent."

PHYLLOXERA (Phylloxera spp.)

Mississippi

R. W. Harned (May 23): A large number of complaints in regard to phylloxera galls on pecan trees have been received during the past few weeks. These complaints have come from Yazoo, Washington, Adams, Holmes, Sharkey, Bolivar, Franklin, Stone, Lincoln, and George Counties. Eleven lots of P. devastatrix Perg. have been received and two each of P. notabilis Perg. and P. caryaeavellana Riley.

PERSIMMON

AN APHID (Myzocallis fumipennellus Fitch)

Georgia

T. L. Bissell (May): The first injury of the year was found on Hicoria glabra at Experiment April 30. Aphids and injury were common on the lower branches of Schley pecan at Barnesville on May 24.

CITRUS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata Tied.)

General

Plant Quarantine and Control Administration (May 31): Mediterranean fruit fly surveys during the month of May showed only a limited increase in the territory known to be involved in infestation outside the areas reported in the last number of the Survey Bulletin. The general infestation may now be said to extend from San Mateo (near Palatka), Ormond, Summit, and Oxford on the north to Auburndale, Haines City, and Cocoa on the south. Throughout the outer third of this entire area the infestation is extremely sparse and represented only by occasional groves at considerable distances from one another. Infested Florida fruit has been intercepted during May in New York City; Little Rock, Arkansas; Columbus, Ohio; Ashburn, Savannah, and Valdosta, Georgia; West Monroe and Shreveport, La.; Greensboro, N. C.; and Dallas, Texas. Two adult flies have been captured at Jacksonville, Fla., in a private residence where a box of oranges from Orlando had been stored and consumed.

Haiti

R. C. Smith (May 6): A special effort is being made to

determine whether the Mediterranean fruit fly occurs in Haiti. It has not been found and is not known to occur here. We have been told that the Bureau of Entomology has no record of the pest having been taken in Haitian fruits.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

- Florida J. R. Watson and E. W. Berger (May 21): The citrus whitefly is moderately abundant over the State, and less abundant in the peninsula than 15 years ago.
- Alabama J. M. Robinson (May 23): The citrus whitefly is moderately abundant in Baldwin and Mobile Counties.
- Mississippi R. W. Harned and assistants (May): This insect is reported as very abundant in Holmes, Leflore, and Attala Counties, and moderately abundant in Lincoln, Yazoo, Jackson, Harrison, and Lauderdale Counties.
- Louisiana W. E. Hinds (May 29): The citrus whitefly is very abundant in Plaquemines Parish.

APHIDS (Aphididae)

- Florida J. R. Watson (May 22): The green citrus aphid has done more damage than usual during the last spring. It is now diminishing in numbers very rapidly.
- J. R. Watson and E. W. Berger (May 21): Aphis spiraeicola Patch is moderately abundant on citrus over most of the State.
- Haiti R. C. Smith (May 6): Citrus aphids have been very bad on orange, grapefruit, and lime trees of the Horticultural Department at Port-au-Prince. The leaves were badly curled before they were noticed. Several sprayings were necessary to bring them under control.

CITRUS THRIPS (Scirtothrips citri Moulton)

- Arizona O. L. Barnes (May 16): This insect was found abundant and doing considerable damage on tender growth of young citrus plants in several nurseries in the Salt River Valley.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

- Florida J. R. Watson and E. W. Berger (May 21): The citrus rust mite is very abundant in the southern part of the State.
- Alabama J. M. Robinson (May 23): This insect is moderately abundant in Mobile and Baldwin Counties.
- Mississippi R. W. Harned and assistants (May): The citrus rust mite was

reported as very abundant in George and Harrison Counties and moderately abundant in Lauderdale County.

FLORIDA RED SCALE (Chrysomphalus ficus Ashm.)

Texas

F. L. Thomas (May 22): The Florida red scale is very abundant on euonymus hedge at Mercedes.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Texas

S. W. Clark (April 30): This scale has been reproducing since April 1. Indications are that it will be less severe than last year, at which time it was very devastating to citrus over the whole Rio Grande Valley.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Mississippi

J. E. McEvilly (May 22): This scale is very abundant and scattered over large areas, killing valuable pittosporum bushes in Laurel. We have failed to establish enough ladybird beetles to reduce the scale.

Arizona

O. L. Barnes (April 27): New infestations by the cottony-cushion scale on pittosporum and grapefruit in the Salt River Valley near Phoenix have been reported.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Alabama

O. T. Deen (May 22): Considerable damage was done to turnips by defoliation of the tops at Foley. Adults and larvae were found on this date.

M. M. High (May 27): The vegetable weevil has recently been found in 7 additional counties in Alabama, which are as follows: Tuscaloosa, Pickens, Greene, Sumter, Marengo, and Choctaw. It is now known to occur in 19 counties.

Mississippi

R. W. Harned (May 17): Adults of the vegetable weevil were reported on April 26 as injuring tomatoes near Jackson. (May 23): Only a few complaints have been received in regard to the vegetable weevil during the past few weeks as compared with the number of complaints received early in the spring. Mustard at Yazoo City was reported as seriously injured by the adult weevils on May 22. Tomatoes and Irish potatoes were reported as being "eaten up" by the weevils on April 27 at Hermanville. Serious injury to Irish potatoes was reported from Lexington on May 4 and to tomatoes at Taylorsville on May 11.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Maryland

E. N. Cory (May 6): Some reports on beans have been received.

Minnesota

A. G. Ruggles and assistants (May): The seed corn maggot is moderately abundant at Crosby and in the eastern part of Polk County, but is scarce over the remaining southern third of the State.

Iowa

C. J. Drake (May 20): The seed corn maggot is quite abundant over the State. A few fields of corn are damaged each year, and onions are also attacked.

Kansas

J. W. McColloch (April 30): Maggots, apparently of this species, received from Paola with the information that they were destroying a planting of watermelons.

A LEAFHOPPER (Homalodisca sp.)

Mississippi

K. L. Cockerham (May 24): Both nymphs and adults of this insect have been more numerous in Biloxi this spring than I have ever seen anywhere. They are found on practically all garden truck, although I do not know to what extent they are injuring the various crops. I have caught as many as 12 adults on one gladiolus spike and similar numbers on other crops such as corn, beans, and Irish potatoes.

MOLE CRICKETS (Gryllidae)

North Carolina and South Carolina W. C. Thomas (May 14): Reports of widespread injury by Scapteriscus vicinus Scud. throughout the coastal plains section of the Carolinas. Tobacco is the chief crop affected. Injury seems to be more severe than ever reported before from this section. Farmers report large numbers of adults flying to lights at night. One drug store at Loris, S. C., reports adults a nuisance about lights in stores at night.

South Carolina M. H. Brunson (May 1): Mole crickets (Scapteriscus sp.) have been reported as damaging garden crops in parts of the coastal plains section, extensively damaging tobacco in the same part of the State and doing damage to corn also.

Florida J. R. Watson and E. W. Berger (May 21): Mole crickets are moderately abundant over the State.

Alabama J. M. Robinson (May 23): Mole crickets have been reported from Eufaula.

GREENHOUSE SOWBEUG (Armadillidium vulgare Latr.)

Mississippi R. W. Harned (May 17): On April 26 a correspondent at Pelahatchee sent to us some pillbugs with the information that they were causing considerable damage to his garden plants, but especially to tomatoes and beans. The pillbugs were sent to the U. S. National Museum and identified by J. O. Maloney. (May 23): These pillbugs were reported as seriously injuring phlox at Meridian on April 8.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

New York Weekly News Letter, N. Y. State College of Agr., May 20: A heavy infestation is expected in Suffolk County as the adults are unusually prevalent.

Florida J. R. Watson (May 22): The Colorado potato beetle is slowly working southward in Florida. It was taken last spring in the western part of Alachua County and is reported to be in the big potato-growing section about Hastings.

Michigan R. H. Pettit (May 9): A rather unusual occurrence at East Lansing seems worthy of mention. During the last 10 days there has been an attack on asparagus shoots, which are just beginning to appear at this time, by the common potato beetle. These beetles, which are still in their winter quarters underground, have attacked the asparagus before ever appearing at the surface, and when the shoots were still underground and very tender the

tips and sometimes the sides have been badly enough eaten to render them valueless for market. There were 27 beetles in one hill of asparagus, that is, the growth from a single crown. It seems that the adjoining field had been in potatoes last year and undoubtedly these beetles came from larvae that had buried themselves in the asparagus last fall.

- Wisconsin E. P. Breakley (May 23): Beetles are beginning to appear.
- Minnesota A. G. Ruggles and assistants (May): The Colorado potato beetle has been reported from very abundant to moderately abundant in the southern third of the State.
- Mississippi R. W. Harned and assistants (May): The Colorado potato beetle is generally abundant throughout the State where spraying has not been carried on.
- Alabama J. M. Robinson (May 23): The Colorado potato beetle is very abundant throughout the State.
- Oregon D. C. Mote (April 29): The Colorado potato beetle is scarce in northeastern Oregon.

A BLISTER BEETLE (Epicauta lemniscata Fab.)

- Louisiana W. A. Douglas (May 9): The striped blister beetle, E. lemniscata, was found attacking Irish potatoes on a plantation near Crowley.

POTATO APHID (Illinoia solanifolii Ashm.)

- Virginia G. E. Gould (May 22): This insect is doing serious damage to tomato and eggplant. In several instances control measures have been applied.
- Mississippi M. M. High (May 25): Macrosiphum solanifolii was found at Gulfport for the first time by the writer in April, 1928, in a seed bed, but little injury was noted at the time to the crop after it had been transplanted. This season the lice are abundant and have done considerable injury to eggplant in the field.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

- New Jersey H. B. Weiss (April 20): The potato leafhopper is generally distributed over the State in the usual abundance.
- Minnesota A. G. Ruggles and assistants (May): The potato leafhopper is reported moderately abundant over the southern third of the State, and very abundant from Morrison and Pipestone Counties.
- Iowa C. J. Drake (May 20): This insect is abundant and a serious pest over the entire State.

TURNIPS

GARDEN WEBWORM (Loxostege similalis Guen.)

Mississippi R. W. Harned (May 23): Specimens identified by J. M. Langston as L. similalis were collected on April 23 at Lucedale, where they were infesting turnips.

GREEN PEACH APHID (Myzus persicae Sulz.)

Mississippi R. W. Harned (May 17): Turnips badly infested with M. persicae were mailed from Savage on April 22.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

New Hampshire P. R. Lowry (May 14): The common cabbage butterfly seems to be more common than usual at this time of the year at Durham.

New York Weekly News Letter, N.Y. State College of Agr., May: Cabbage butterflies were observed during the week of May 13 in Suffolk County.

Maryland E. N. Cory (May 6): The imported cabbage worm has been reported from Prince George and Frederick Counties.

Wisconsin E. P. Breakey (May 23): Adults of Pieris rapae are abundant.

Minnesota A. G. Ruggles and assistants (May): The imported cabbage worm is reported as moderately abundant over the southern third of the State and very abundant from Tracy, Austin, and Chatfield.

Mississippi R. W. Harned (May 23): Specimens of Pontia rapae were sent in from Wyatte on May 8 with the information that they were injuring cabbage.

K. L. Cockerham (April 20): This insect has been quite destructive to cabbage at Biloxi for several days. (April 25): Two 1-acre fields of cabbage at Picayune are heavily infested.

CELERY LOOPER (Autographa falcifera Kby.)

Haiti R. C. Smith (May 6): The southern cabbage looper, Plusia simplex, has been particularly bad at Port-au-Prince lately. It has required constant spraying or dusting of cabbage to produce heads of any value whatever and even then some have been made worthless by these larvae and attendant decay.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

New York

Weekly News Letter, N. Y. State College of Agr., May: The cabbage maggot was reported as very numerous in Suffolk County the week of May 13. The fly was reported as beginning to lay eggs in Onondaga County the week of May 20 and in Chautauqua and Erie Counties the week of May 27.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia

G. E. Gould (May 22): This insect is moderately abundant and doing some damage, but not so abundant as last year. Most of the cabbage is harvested in time to escape serious injury.

North Carolina

C. H. Brannon (May 18): A large field of rape in Washington County has been completely destroyed by the cabbage aphid.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Maryland

E. N. Cory (May 6): The harlequin bug appeared on April 8 in Dorchester County.

North Carolina

W. A. Thomas (May 20): Hundreds of nymphs are now feeding on mature seed pods of broccoli in the Chadbourn section. Adults are no longer abundant on these plants since the seed have matured, but nymphs are attacking the dry pods, evidently feeding on the seed within.

J. P. Metcalf (May 27): The harlequin bug is very abundant at Raleigh.

South Carolina

M. H. Brunson (May 18): The harlequin bug is very abundant.

Alabama

J. H. Robinson (May 20): The harlequin bug is occurring all over the State in great abundance.

Mississippi

R. W. Harned and assistants (May): This insect is moderately abundant in practically all parts of the State and reported as doing considerable damage at Buena Vista, Okolona, Morgan City, Jackson, Meridian, and many other places in the State.

Louisiana

W. A. Douglas (May 9): This insect was found numerous on Irish potatoes in a field near Crowley. This is an unusual occurrence and was witnessed by W. R. Walton and W. E. Halcy of the Bureau of Entomology.

CROSS-STRIPED CABBAGE WORM (Evergestis rimosalis Guen.)

Mississippi

K. L. Cockerham (May 6): This cabbage worm was found doing considerable damage to cabbage at Biloxi.

FLEA BEETLES (Phyllotreta spp.)

Mississippi

R. W. Harned (May 17): Flea beetles causing damage to cab-

bago were mailed from Hazelhurst April 22. The specimens were determined as P. zimmermanni Cr. and P. vittata discedens Weise by W. S. Fisher.

CABBAGE WEBWORM (Hellula undalis Fab.)

Texas

F. L. Thomas (May 16): Many specimens of the cabbage webworm were found in old plants of cabbage that were unmarketable and being plowed under in Webb County.

STRAWBERRY

A BUPRESTID (Chrysobothris pubescens Fall)

Washington

W. W. Baker (May 22): Larvae of C. pubescens were collected in strawberry crowns in White Dalmon in 1928. This spring larvae have been taken in strawberry crowns in the Grand Mound district, where they appear to have been recognized by growers at least 4 years previously. Some growers have claimed that they have suffered severe losses of plants due to this beetle, to which they have been applying the name "horseshoe nail." It is undoubtedly serious when once established and it is thought that the occurrence in strawberry is very interesting since buprestids are commonly considered as wood borers. (A similar report was received from Oregon last November. J.A.E.)

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

North Carolina

F. L. Thomas (May 15): These insects are very abundant on peppergrass in the vicinity of Chadbourn and where the plants occur in strawberry fields there seems to be an overflow to strawberry plants. The damage, however, to the latter is very slight.

PLAINS FALSE WIREWORM (Elcodes opaca Say)

South Dakota

H. C. Severin (May 13): The plains false wireworm is damaging strawberries severely at Clearview.

RED SPIDER (Tetranychus telarius L.)

Maryland

E. N. Cory (May 6): The red spider is abundant on strawberry in Somerset County March 21.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

South Carolina

M. H. Brunson (May 23): Asparagus in the vicinity of Denmark has been damaged considerably by the asparagus beetle.

Illinois

C. C. Compton (May 15): This insect was very abundant in asparagus fields of Cook County May 12.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Delaware

H. L. Dozier (May 17): A single adult of the Mexican bean beetle was beaten from a peach tree at Bridgeville May 1. This is the first adult observed for this season, which is earlier than usual.

Maryland

E. N. Cory (May 6): This insect emerged early, but returned to hibernation.

Virginia

W. J. Schoene (May): The first adults of the Mexican bean beetle were found at Blacksburg May 22.

P. J. Chapman (May 22): The first beetle appeared in the field May 3, which is approximately the same time as last year. At that time (May 3) the earliest beans were coming into bloom. Very few beetles are in the field at present. The large commercial spring crop of snap beans is almost certain to escape injury this year, as some beans will be picked within a week. (May 24): Records to date from hibernation cages indicate that a large number of beetles survived the winter in eastern Virginia. Both second and third brood individuals show a survival on this date of approximately 40 per cent. Many beetles are now appearing in the fields and a few egg masses have been found. Snap beans are being picked in the vicinity of Norfolk. It appears that the large spring crop will escape important damage.

N. F. Howard (May 16): Mr. O. E. Gahn reported that 15 per cent of the beetles placed in hibernation cages at Arlington Farm in the fall of 1928 had already emerged, indicating high survival, and that heavy spring infestation may be expected in that section.

North Carolina

C. H. Brannon (May 15): The Mexican bean beetle has made its appearance, but no serious damage has occurred.

South Carolina

M. H. Brunson (May 23): This insect is becoming abundant in many bean fields in the eastern part of the State.

Ohio

N. F. Howard (May 15-16): The first Mexican bean beetle was found in the field at Columbus on May 15, and at Athens May 16. There has been activity in the hibernation cages during warm periods for the past two weeks, but the recent cool weather has inhibited activity.

A correction - Reference to this insect at Biloxi, Miss., in Vol. 9, No. 3, P-82, refers to Epilachna borealis Fab.

- Indiana J. J. Davis (May 28): The Mexican bean beetle has not appeared.
- Kentucky H. Garman (May 4): An adult was noticed three weeks ago.
- Alabama J. M. Robinson (May 23): This insect is very abundant over all of the northeastern part of the State.
- New Mexico J. R. Eyer (May 21): Adults began appearing on May 20 on garden beans, but are very scarce.

BEAN LEAF BEETLE (Carotoma trifurcata Forst.)

- Virginia P. J. Chapman (May 22): Injury by this insect is conspicuous throughout the trucking areas. In some instances control is necessary, but none has been applied.
- North Carolina W. A. Thomas (May 17): This insect is doing the usual amount of damage to snap beans in the vicinity of Chadbourn. Some plants are riddled, while others are less seriously affected.
- Mississippi G. I. Worthington (May 23): The bean leaf beetle is attacking butter beans and snap beans in the vicinity of Shelby, Clarksdale, and Cleveland.

COMPEA WEEVIL (Chalcodermus aeneus Boh.)

- Alabama K. L. Cockerham (May 9): This insect was reported by Mr. S. C. Brummitt as severely injuring snap beans at Grand Bay on May 9. It was apparently puncturing the blossom buds, and the bean pods showed some indications of feeding.

BLACK BLISTER BEETLE (Epicauta pennsylvanica DeG.)

- Alabama K. L. Cockerham (May 9): A good many specimens of this beetle were forwarded by Mr. S. C. Brummitt on May 9 from Grand Bay, where he found them on snap beans. They were evidently doing some damage to the crop.

BEAN LEAF ROLLER (Goniurus protous L.)

- Florida J. R. Watson and E. W. Berger (May 21): The bean leaf roller is moderately abundant over the State.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

- Alabama S. C. Brummitt (May 9): Quantities of these insects were found in a bean field at Grand Bay.

COTTON PLANT BUG (Adolpocoris rapidus Say)

- Mississippi R. W. Harned (May 23): Specimens of this insect were sent

from Moss Point on May 15 with the information that they were abundant on butter beans.

LEAFHOPPERS (Cicadellidae)

Haiti R. C. Smith (May 6): A small green leafhopper has been found to cause a serious yellows disease of beans in Haiti. The disease makes the growing of beans, except at the highest altitudes, impossible except during the winter months. This leafhopper is very plentiful now. The disease also occurs on some allied plants. (Specimens have been sent to Dr. DeLong for determination.)

CUCUMBER

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Delaware H. L. Dziedzic (May 17): Adults of the striped cucumber beetle were beaten from a peach tree at Bridgeville on May 1.
- Virginia P. J. Chapman (May 22): The striped cucumber beetle is moderately abundant on cucumber, squash, and cantaloupe.
- Ohio H. C. Mason (May 16): This insect was observed in the field at Columbus May 16.
- Kentucky H. Garman (May 4): A few of the striped cucumber beetles have been found.
- Wisconsin E. P. Breakey (May 23): Adults are beginning to appear.
- Minnesota A. G. Ruggles and assistants (May): The striped cucumber beetle is reported quite generally over the southern part of the State with scattered reports of severe abundance.
- Missouri L. Haseman (May 24): The beetles are slow in appearing at Columbia, the melons not being planted.
- Alabama O. T. Deen (May 9): This insect is causing 90 per cent damage to squash blooms at Grand Bay, there being from 10 to 20 beetles on each bloom.
- J. M. Robinson (May 23): The striped cucumber beetle is very abundant throughout the State.
- Mississippi R. W. Harned (May 17): Inspector K. Harmon on April 22 observed cucumber beetles appearing in considerable numbers on orange trees. He sent 5 specimens to us, 4 of which proved to be D. vittata and the other D. duodecimpunctata. The striped cucumber beetle was reported during the last week of April as causing serious damage to watermelons in the vicinity of

Columbus. The larvae were abundant on the roots and the adults were feeding on the leaves. (May 23): Specimens of this beetle were sent from Mize on May 5 and Lena on May 10, with the information that they were causing serious injury to young watermelon plants.

P. K. Harrison (April 25): Many specimens of this insect have been received from Picayune, where they were attacking cucumber, squash, and watermelon.

MELONS

WESTERN STRIPED CUCUMBER BEETLE (Diabrotica trivittata Mann.)

Arizona

O. L. Barnes (May 18): This insect is attacking watermelons and cantaloupe plants in many fields in the Salt River Valley.

MELON APHID (Aphis gossypii Glov.)

Florida

J. R. Watson and E. W. Berger (May 21): The melon aphid is very abundant wherever melons grow in the State.

ONIONS

ONION THRIPS (Thrips tabaci L.)

New York

Weekly News Letter, N. Y. State College of Agr., May 13: The onion thrips have been observed in Suffolk County.

ONION MAGGOT (Hylemyia antiqua Meig.)

New York

Weekly News Letter, N. Y. State College of Agr., May 20: Onion maggots were laying eggs around onions May 16. Some eggs had hatched and the larvae were feeding on young onions in Orange, Genesee, and Orleans Counties, and first appeared in Suffolk and Erie Counties the last week in the month.

Illinois

C. C. Compton (May 15): Adults began emerging in small numbers May 10, which is normal for Cook County.

SUGAR BEET

BEEF LEAFHOPPER (Eutettix tenellus Baker)

Idaho

C. Wakeland (May 21): In the main commercial beet-growing areas populations are light and beet planting early, and damage is not expected. In some of the natural breeding areas isolated from beet-raising districts the leafhopper is quite abundant and observations indicate that it has already passed one complete generation May 17.

- Utah G. F. Knowlton (May 13): The beet leafhopper is practically absent from the sugar-beet fields of northern Utah at the present time. This insect is fairly numerous on small areas of its breeding ground just west of Snowville and Promontory.
- New Mexico J. R. Eyer (May 21): The beet leafhopper is very abundant at State College and has been increasing in abundance since May 1. The females are now ovipositing.
- Arizona O. L. Barnes (May 20): This insect is moderately abundant.
- Oregon D. C. Mote (April 29): The beet leafhopper is moderately abundant in eastern Oregon. It invaded the Willamette Valley in 1926.

LETTUCE

APHIDS (Aphidae)

- California R. E. Campbell (April 20): There are 6,000 acres of lettuce approaching maturity in the Salinas Valley badly infested with Myzus persicae Sulz. and Macrosiphum kaltenbachii Shoudt. Aphid attacks in many cases result in sliming of the heads, rendering them worthless. Much of the remainder is reduced in quality by the damage or presence of aphids. Many infested fields will suffer a loss of 50 per cent. An additional 6,000 acres of young lettuce is also infested, mostly with migrating forms. Unless their control by natural or artificial means is effected this acreage will be severely damaged.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

- Maryland E. N. Cory (May 6): This insect is out abundantly and as early as the last of March in Wicomico County.
- Virginia P. J. Chapman (May 22): Adults are present in moderate numbers, but no eggs observed.
- North Carolina J. N. Tonhot (May 15): The first squash ladybirds have begun to appear on squash at Chadbourn.

MINT

CRANE FLIES (Tipulidae)

- Michigan R. H. Pettit (May 22): Crane fly larvae have been reported very plentiful in some of the mint fields and some damage is being done. The leather jackets are beginning to pupate at this time, so the worst of the attack is over.

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

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina C. H. Brannon (May 15): The tobacco flea beetle has caused very severe damage all over the tobacco sections. Many beds and fields of tobacco have been almost completely destroyed.

Kentucky H. Garman (May): This insect is abundant in plant beds.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

North Carolina W. A. Thomas (May 25): Growers report serious injury by this insect feeding on the stems and foliage of tobacco plants at Evergreen. In some instances midribs of leaves have been eaten so as to cause the leaf to break and drop.

TOBACCO WIREWORM (Monocrepidius vespertinus Fab.)

North Carolina J. N. Tenhet (May 15): Injury to tobacco near Chadbourn by M. vespertinus has been very widespread the past three weeks, but is about over for the season.

TOMATO WORM (Protoparce sexta Johan.)

North Carolina J. N. Tenhet (May 28): The first tobacco hornworms are beginning to appear on tobacco at Chadbourn.

Florida F. S. Chamberlin (May 14): Infestations on tobacco are about normal in Gadsden County for this time of the year.

TOBACCO BUDWORM (Heliothis virescens Fab.)

North Carolina J. N. Tenhet (May 25): The tobacco budworm has appeared in the tobacco fields near Chadbourn much earlier than usual this spring.

A SLUG (Agrionolimax campestris Binney)

North Carolina Z. P. Metcalf (April 19): The little slug which has done much widespread damage in the southeastern section of this State to tobacco plant beds has been identified by Dr. F. C. Baker of the University of Illinois as A. campestris. Many plant beds in the southeastern part of the State have been completely destroyed.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

T. E. Holloway and W. E. Haley (May 16): The sugarcane moth borer was found in very small numbers, causing dead hearts in sugarcane in Jefferson Parish.

W. E. Hinds (May 29): Sugarcane borers hibernated fairly successfully. The first generation is now reaching the adult stage and the second generation is just starting. Some fields show heavy infestations, but the general condition appears below average.

PINK SUGARCANE BORER (Meropleon cosmion Dyar)

Louisiana

T. E. Holloway and W. E. Haley (May 16): Two specimens of the pink borer of sugarcane, M. cosmion, were found in young sugarcane plants in Jefferson Parish.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Louisiana

T. E. Holloway and W. E. Haley (May 16): This insect was found injuring sugarcane in Jefferson Parish.

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 (Tibicina septendecim L.)

Iowa

H. E. Jaques (May 31): The periodical cicada (Brood III) was first found in the adult stage May 28 at Mt. Pleasant, Henry County. Nymphs and their "chimneys" have been abundant for two months or more.

BAGWORM (Thyridopteryx ephemeræformis Haw.)

Indiana

J. J. Davis (May 28): Bags were reported abundant on May 3 at Brownville in a 3-year-old orchard.

Mississippi

R. W. Harned (May 23): Specimens were received from Hattiesburg on May 15 with the information that a rose bush was heavily infested.

GLOOMY SCALE (Chrysomphalus tenebriocesus Comst.)

North Carolina

C. H. Brannon (May 23): Soft maple trees all over eastern North Carolina are very severely damaged by this scale.

Mississippi

J. E. McEvilly (May 22): This scale is very abundant on oak trees at Laurel and it is also doing some damage to pecan trees at Moselle.

ASH

ASH BORER (Podosesia fraxini Luger)

South Dakota H. C. Severin (May 1): The ash borer is the most destructive insect to ash that we have, damage being very severe. It is more plentiful where rainfall is 15 inches per year or less.

BANDED ASH BORER (Neoclytus caprea Say)

Nebraska M. H. Swenk (May 21): The banded ash borer was discovered and sent in by the Dodge County correspondent on May 7.

CEDAR

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi R. W. Harned and assistants (May): Adult weevils identified by J. M. Langston as P. deodarae were collected on Cedrus deodara plants and Arizona cypress at McComb May 2 and at Lexington May 11, and also in Leflore and Attala Counties. Twigs evidently injured by this species were also received from McComb on May 7. No specimens were in the twigs.

CHESTNUT AND HAZELNUT

WEEVILS (Curculio spp.)

Virginia F. E. Brooks (May): Beetles of the lesser chestnut curculio, C. auriger Cas., and the hazelnut curculio, C. obtusus Blanch., that have developed from larvae infesting the host nuts in the summer and autumn of 1927 issued from the ground May 10 to 15. The chestnut-attacking species seems more abundant than usual.

ELM

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

Maryland J. A. Hyslop (May 18): About 10 per cent of the leaves on small nursery trees (American elm) at Annel bear these galls, never more than one gall to a leaf.

A FLEA BEETLE (Haltica ulmi Woods)

Massachusetts J. V. Schaffner, Jr. (May 25): A representative of the Brookline Forestry Department brought in specimens on May 16. He reported three trees of elm badly infested and the adults were feeding on the unfolding leaves.

FIR AND SPRUCE

LONG SPRUCE CONE GALL (Chermes cooleyi Gill.)

Washington W. W. Baker (May 22): This insect is quite general throughout the western part of the State on Douglas fir and Sitke spruce.

DOUGLAS FIR CATERFILLAR (Euschausia argentata Pack.)

Washington W. W. Baker (May 22): Halisidota argentata is more prevalent on Douglas fir and other conifers in western Washington than it was in 1928. It is maturing earlier this year than last.

HICKORY

HICKORY PHYLLOXERA (Phylloxera caryaecaulis Fitch)

North Carolina C. H. Brannon (May 25): Hickory trees in Raleigh are covered with the galls of the hickory phylloxera.

JUNIPER

CEDAR BARK BEETLE (Phloeosinus dentatus Say)

Nebraska M. H. Swenk (May 21): During the last week in April the cedar trees in a Lancaster County cemetery were found seriously infested with the red cedar bark beetle.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

Maryland E. N. Cory (May 6): This insect was reported from Baltimore on February 26.

MAPLE

SUGAR-MAPLE BORER (Glycobius speciosus Say)

North Carolina C. H. Brannon (May 23): Plagionotus speciosus is causing serious injury to a grove of sugar maples in Caraway, Randolph County.

WOOLLY MAPLE LEAF APHID (Pemphigus acerifolii Riley)

North Carolina Z. P. Metcalf (May 27): The woolly maple louse is abundant in the eastern part of the State.

COTTONY-MAPLE SCALE (Pulvinaria vitis L.)

South Carolina M. H. Brunson (May 23): Maple trees in many parts of the State are heavily infested with the cottony-maple scale.

Alabama J. M. Robinson (May 23): This insect has been reported from Hackleburg.

OAK

TWO-SPOTTED CIRCULIC (Attelabus bipustulatus Fab.)

West Virginia F. E. Brooks (May): Adults of a leaf-rolling weevil, Attelabus bipustulatus, are common at French Creek, rolling the leaves of laurel oak, Quercus imbricaria.

A correction - The note on Asterolecanium variolosum Ratz. by R. B. Friend on page 88 of this volume of the Bulletin, where the species was reported as attacking "chestnut and oak" should have read as attacking "chestnut oak."

OAK LECANIUM (Lecanium quercifex Fitch)

Alabama J. M. Robinson (May 23): This insect was reported from Cedar Bluff.

ROUGH BULLET FELL (Disholcaspis mamma Walsh)

Mississippi R. W. Harned (May 23): Galls on oak identified by E. P. Felt as D. mamma were collected on March 23 at Calhoun City.

PINE

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Maine C.R. Phipps (May 21): The white-pine weevil is very abundant and destructive.

New Hampshire P. R. Lowry (May 17): The white-pine weevil was common at Durham on May 10, copulating and feeding.

RED TURPENTINE BEETLE (Dendroctonus valens Lec.)

New Hampshire P. R. Lowry (May 17): This insect is common in white pine logs and stumps cut this winter. The first eggs were found today (Durham).

NANTUCKET PINE MOTTE (Rhyacionia frustrana Comst.)

Mississippi R. W. Harned (May 23): On May 6 a correspondent at Cleveland sent to us some pine twigs that contained pupae of what is ap-

parently R. frustrans. He reported that the larvae had caused damage to the new growth of some small shortleaf pine trees. Larvae tentatively identified as R. frustrana were sent in on April 15 from Natchez with the information that they were causing serious injury to some young slash pine trees.

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

Minnesota

A. G. Ruggles (May): This insect is very abundant on Jack pine, Scotch pine, and mugho pine in Ramsey County.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Nebraska

M. H. Swenk (May 21): The pine leaf scale was noted hatching from overwintered eggs on May 9 and is still hatching. Complaints of injury were received from several localities, especially Omaha and Lincoln.

PINE BARK APHID (Chermes pinicorticis Fitch)

Maryland

E. N. Cory (May 6): This insect appeared in Caroline County on May 8.

POPLAR

SATIN MOTH (Stilpnotia salicis L.)

Washington

T. W. Baker (May 22): Satin moth larvae were found feeding on poplars in Olympia early in May. It has not been recorded previously south of Tacoma.

POPLAR LEAF MINER (Lithocolletis tremuloidella Braun)

Wyoming

H. L. Sweetman (May 15): This insect had not started to pupate May 15.

COTTONWOOD LEAF BEETLE (Lina scripta Fab.)

Mississippi

R. W. Harned (May 23): Larvae of Melasoma scripta were sent in on April 25 from Neston with the information that they were abundant on cottonwood trees. Larvae collected on poplar trees were sent in from Lucedale on May 2.

WILLOW

EUROPEAN WILLOW BEETLE (Plagiodera versicolora Laich.)

Delaware

H. L. Dozier (May 18): The imported beetle P. versicolora (determined by H. S. Barber) is very abundant at Newark, attacking a great many varieties of willow, and they are present in such large numbers that they are rapidly defoliating trees.

Prof. C. O. Houghton states that he observed this insect at Newark for the first time in the spring of 1928, at which time it was abundant.

ALDER FLEA BEETLE (Haltica bimarginata Say)

Washington

W. W. Baker (May 22): The alder flea beetle was quite abundant on willow early in May.

INSECTS ATTACKING GREENHOUSE
AND ORNAMENTAL PLANTS

SMALL GREEN ROSE APHID (Myzus rosarum Kolt.)

Ohio

E. W. Mendenhall (May 3): The cape jasmine in one of the greenhouses in Springfield is very badly infested with the green aphid, M. rosarum.

GREENHOUSE LEAF TYER (Phlyctaenia ferrugalis Hbn.)

Connecticut

J. F. Johnson (May 24): This insect seems to be more generally prevalent this year than last at Shelton as I have had a dozen or more complaints, whereas last year I had none.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Labou.)

Washington

C. F. Doucette (May 22): Ornamental box in a nursery near Seattle is very heavily infested with the boxwood leaf miner. This infestation was discovered by the Seattle district inspector and specimens were brought to this laboratory for identification. Adults were emerging in the nursery on May 18. This infestation is the first instance recorded in the Pacific Northwest as far as is known.

Delaware

E. L. Dozier (May 17): Adults of the boxwood leaf miner started to issue at Wilmington on May 8.

BOXWOOD PSYLLID (Psyllia buxi L.)

Washington

W. W. Baker (May 22): The boxwood psyllid has been reported from several localities in western Washington and is probably general throughout the vicinity of Puyallup. It has been causing considerable injury this year.

CANNA

LESSER CANNA LEAF ROLLER (Geshma cannalis Quaint.)

Mississippi

R. W. Harned (May 23): Specimens of the lesser canna leaf roller were sent in on May 16 from McComb, with the information that they were seriously injuring cannas.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Ohio

E. W. Mendenhall (May 4): The chrysanthemum midge has been the cause of a continued fight in the greenhouses in Springfield. Many of the houses are wholesale houses and ship chrysanthemum stock to a number of States and Canada. Some of the houses in Springfield are comparatively free from the midge.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Delaware

H. L. Dozier (May 17): The euonymus scale was very abundant in April.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Ohio

E. W. Mendenhall (May 27): I find the iris borer in the iris plants again in Columbus and vicinity. They were reported quite bad last year.

LILAC

LILAC LEAF MINER (Gracilaria syringella Fab.)

Washington

C. F. Doucette (May 22): Several lilacs around Puyallup and Sumner are severely infested with the mines of the lilac leaf miner. Rolling of the leaves has not started yet.

NARCISSUS

BULB MITE (Rhizoglyphus hyacinthi Banks)

Ohio

E. W. Mendenhall (May 11): I find the narcissus bulbs in plantations in Miami and Montgomery Counties infested with the bulb mite to some extent.

KNOT-LEGGED BULB FLY (Eumerus tuberculatus Rond.)

Washington

C. F. Doucette (May 22): The first adult was observed in the field May 7 near Sumner. This is much later than in 1928. To date (May 21) all adults captured in the field have been E. tuberculatus.

OLEANDER

OLEANDER APHID (Aphis nerii Fons.)

Arizona

O. L. Barnes (May 10): The oleander aphid is very abundant on tender terminal growth of oleander in the Salt River Valley.

PHLOX

YUCCA PLANT BUG (Halticotoma valida Reut.)

Mississippi

R. W. Harned and assistants (May): Leaf bugs identified by J. M. Langston as H. valida were sent in on April 30 from Aberdeen with the information that they "have appeared on Yucca plants and are causing injury to perennial phlox near by." Specimens of this species were also collected on Yucca plants at Kosciusko May 8 and at Durant on May 23.

ROSE

ROSE SAWFLY (Caliroa aethiops Fab.)

Maryland

J. A. Hyslop (May 24): Rose slugs are more numerous in my garden at Avanel than I have observed them in years. They are rapidly skeletonizing the leaves of hybrid teas and climbing roses roses.

Ohio

Ohio

E. W. Mendenhall (May 27): The rose slug, Endelomyia rosae is quite bad on some of the climbing roses in Columbus and vicinity.

Kentucky

H. Garman (May): The rose slug Selandria rosae is becoming common.

ROSE LEAF BEETLE (Nodonota puncticollis Say)

Maryland

J. A. Hyslop (May 15): These beetles are so numerous in all kinds of roses at Avanel as to practically ruin every blossom. As many as 28 beetles were collected in a single flower.

A BEETLE (Diplotaxis frondicola Blanch.)

Mississippi

R. W. Harned (May 17): A correspondent at Brookhaven sent specimens on May 2 with the following comments: "They have completely destroyed one of my rose bushes by eating the foliage and buds. They keep every particle of green eaten off. They work at night and in the mornings I find them just under the soil near the roots of the rose bushes." (Determined by J. M. Langston.)

ROSE APHID (Macrosiphum rosae L.)

Ohio

E. W. Mendenhall (April 30): I find the rose aphids are beginning to put in their appearance. (May 27): The rose aphid is doing considerable damage to bush honeysuckle at Columbus.

SPINY ROSE GALL (Rhodites bicolor Harr.)

North Carolina

C. H. Brannon (May 4): The spiny rose gall, R. bicolor, was sent in from Carthage, where it was attacking rose.

SUMAC

SUMAC FLEA BEETLE (Blepharida rhois Forst.)

Kansas

R. L. Parker (April 26): The sumac flea beetle is very numerous on smoke bush (Rhus cotinus) and sumac (R. glabra) at Manhattan. The adults are eating newly emerged leaves of smoke bush and many egg masses are on sumac. Adults are gouging into buds and destroying them.

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

MOSQUITOES (Culicinae)

New Hampshire

P. R. Lowry (May 17): Mosquitoes have become exceedingly common in the woods near Durham during the last week, the principal species being Aedes communis DeG., A. trichurus Dyar, and A. excrucians Walk.

FLEAS (Ctenocephalus spp.)

General

F. C. Bishopp (May 25): A number of reports of infestations of houses by fleas, C. canis Curt. and C. felis Bouche, have been coming in during the past month. The reports emanate from various sections of the country, Pa., N.Y., Kan., and Wash., comprising the list of States from which complaints have been received.

A GNAT (Hippelates sp.)

- Arizona F. C. Bishopp (May 25): On April 18 a few specimens of this species were seen buzzing about the faces of people in Tucson. Some report that on certain days during the last two weeks these gnats have been annoying to man.
- California F. C. Bishopp and D. C. Parman (May 25): On April 16 this species was present in moderate numbers and beginning to cause much annoyance to residents of the Coachella Valley. Infested eyes, especially among the school children, are quite commonly seen, although every effort is being made to reduce this trouble.

BUFFALO GNAT (Eusimulium pecuarum Riley)

- Nebraska M. H. Swenk (May 21): Prosimulium pecuarum was reported as very prevalent in the vicinity of North Platte, Lincoln County, about the middle of May.

CATTLE

HORN FLY (Haematobia irritans L.)

- Maryland H. S. Peters (May 25): Horn flies were observed rather numerous for the first time on May 14.
- North Dakota F. C. Bishopp (May 25): The first horn fly was observed on a bull at North Dakota Agricultural College on May 13.
- Missouri L. Haseman (May 24): The horn flies are becoming quite abundant.

NORTHERN CATTLE GRUB (Hypoderma bovis DeG.)

- Idaho F. C. Bishopp (May 25): During the month of May specimens of this species have been received from the following localities in Idaho: Bennington and Ovid, Bean Lake County; Gannett, Blaine County; Samuels, Bonner County. These constitute the first records of this species for the State.

SHORT-NOSED OX LOUSE (Haematopinus eurysternus Nitz.)

- Nebraska M. H. Swenk (May 21): During the third week in April a correspondent from Thomas County reported sucking lice to be very prevalent on his cattle.

DOG

BROWN DOG TICK (Rhipicephalus sanguineus Latr.)

- Texas F. C. Bishopp and F. A. Fenton (May 23): On April 19 dogs belonging to a resident of El Paso were found considerably an-

noyed by the attack of this tick. Specimens of the tick were also causing some trouble by crawling up the walls of rooms and giving rise to large numbers of seed ticks in cracks above the base boards and windows.

POULTRY

EUROPEAN HEN FLEA (Ceratophyllus gallinae Schrank)

Pennsylvania

F. C. Bishopp (May 25): An infestation of a chicken house by the European hen flea was reported from West Grove on May 3.

BUFFALO GNATS (Simuliidae)

Alabama

J. M. Robinson (May 23): Buffalo gnats attacking chickens were reported from West Blockton and Ethelsville. Midges attacking turkeys were reported from White Hall and attacking poultry at Le Pine.

PIGEON HIPPOBOSCID (Lynchia maura Bigot)

South Carolina

F. C. Bishopp (May 25): On March 29 a large commercial pigeon plant was experiencing considerable trouble from the pigeon fly. As many as 8 flies were found on a single squab, and the number is said to increase considerably as the weather becomes warmer.

Florida

F. C. Bishopp (May 25): Several reports of infestations in Florida have been received during May. These came from Lockhart, Daytona, and Miami.

California

F. C. Bishopp (May 25): On May 9 a report of an infestation of pigeons by this insect was received from Arcadia. The statement is made that it is becoming more abundant each year.

Costa Rica

F. C. Bishopp (May 25): On April 12 a pigeon fancier from San Jose reported that his birds have been annoyed by the pigeon fly for the past two or three years.

HOUSEHOLD AND STORED -

PRODUCTS INSECTS

TERMITES (Reticulitermes spp.)

Maryland

E. N. Cory (May 6): A report of termite damage was received from Baltimore on March 16.

Indiana

J. J. Davis (May 28): During the month a number of reports of white ant troubles have been received. This pest is prevalent throughout the State and causing serious losses.

- Illinois W. P. Flint (May): Numerous reports of termite damage have continued to come in during late April and May.
- J. M. Bigger (May 13): An infestation of termites was examined in a store building in Jacksonville May 13. There is comparatively small damage up to date.
- Nebraska M. H. Swenk (May 21): A consolidated school house in southern Gage County was found with the interior woodwork seriously damaged by termites the first week in May.
- Kansas J. W. McCulloch (May 20): Termites have been very abundant in many localities during the past month. Damage to dwellings has been reported from Pratt, Kiowa, Abilene, Arkansas City, Burlingame, Kansas City (12 houses), and Manhattan (8 houses). At Eureka damage has occurred in the courthouse. The damage in the several houses at Manhattan ranges from a few dollars to \$2,000.
- Alabama J. M. Robinson (May 23): Termites are active from Birmingham and Simpson to Montgomery, Mobile, and Andalusia, destroying old houses and newly built houses. They have also attacked pecan trees at Carrollton.
- Mississippi D. W. Grimes (May 23): Termite damage is severe in places in Leflore and Holmes Counties.
- Arizona O. L. Barnes (April 25): The flooring and baseboards are completely ruined in a living room of a house in Phoenix.
- Washington S. E. Crumb (May 22): Investigating a newspaper report of a great number of earwigs concentrating in wooden gutters in certain sections of Tacoma, it was found that the insects were termites. The gutters, some of them quite old, were in a rather dilapidated condition as a result.

CLOVER MITE (Bryobia praetiosa Koch)

- Massachusetts J. V. Schaffner, Jr. (May 25): Specimens of the clover mite were received from Brockton May 15 with a letter giving the following information: "This pest has been found in the house every spring for the past three years, the first appearing about the middle of April and remaining until the last of May."
- Ohio T. H. Parks (May 18): Two complaints have been received with specimens carrying the information that these mites were entering houses and were a nuisance in Union and Miami Counties.

EUROPEAN EARWIG (Forficula auricularia L.)

- Washington S. E. Crumb (May 22): The young earwigs started to appear around Puyallup on April 23.

RED-LEGGED HAM BEETLE (Necrobia rufipes DeG.)

Ohio

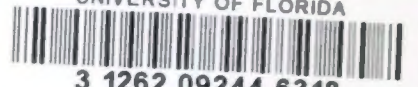
N. F. Howard (May 2): The red-legged ham beetle was extremely numerous in a carload of package soap from Cincinnati received at Athens. Pieces of copra were found in the car but no evidence was obtained that the beetle had been feeding on this material. It is possible that the car had been used for the shipment of hides or some other animal material.

RICE WEEVIL (Calendra oryzae L.)

Haiti

R. C. Smith (May 6): Feterita heads in the field at Damien are tremendously infested with the rice weevil. Grain not promptly fumigated after threshing is quickly ruined. Several weeks ago I watched some natives threshing out some petit maize which is the native grain sorghum and saw the ground a crawling mass of these insects around the pile of grain and heads.

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