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THE MORE IMPORTANT RECORDS FOR JUNE, 1933

The grasshopper situation in the Dakotas, Minnesota, and eastern Montana is as serious as was anticipated from the surveys carried on last year. Extensive campaigns are being carried on throughout the infested districts. Scattered outbreaks were also reported from Iowa and Nebraska, and southward through Kansas and Oklahoma to Mississippi and Texas. Outbreaks are also reported from localities in Wyoming, Utah, and Nevada. In the upper Mississippi Delta airplanes were used in attempting to control the outbreak of hoppers.

The black cutworm, or so-called overflow worm, developed in outbreak numbers in the lowlands of southwestern Indiana, Illinois, and Ohio. The clay-backed cutworm occasioned serious injury in central and northern Illinois, the pale western cutworm was troublesome in northeastern Colorado and north-central North Dakota, and the variegated cutworm has been reported from Virginia, Tennessee, and Missouri.

Toward the end of June considerable outbreaks of armyworms were reported from Pennsylvania, Virginia, West Virginia, Indiana, and Tennessee.

The garden webworm was reported as destroying alfalfa in parts of Indiana, and a general and rather severe infestation of webworms on both sugar beets and alfalfa was reported from Minnesota, Montana, Wyoming, and Utah.

An unusual and severe infestation of crotalaria by the bella moth was reported from Georgia through Alabama to Louisiana.

Rose chafers have been unusually and destructively abundant in the New England States and westward through New York to Indiana and Michigan.

Despite the setback the chinch bug received during May by heavy rains, this insect was reported as still appearing in serious numbers in Ohio, through Indiana to central Illinois, and in parts of Iowa, Missouri, and Nebraska, southward through Kansas to Oklahoma and Texas.

The lesser corn stalk borer was reported during the month as damaging both sugarcane and corn in the Gulf States from Louisiana to Georgia and Florida.

The codling moth is very abundant throughout the Eastern States. The infestation in Illinois is reported as the most serious in the past 20 years.

The rosy apple aphid built up destructive populations during early June in the Middle Atlantic States.

Blister beetles, which in the grub stage are predacious on grasshopper eggs, were reported as unusually destructive to truck crops in the South Atlantic States, from Virginia westward to Kentucky. In the region heavily infested by grasshoppers last year these insects became decided pests to both field and garden crops, reports having been received from the two Dakotas, Nebraska, Kansas, and Wyoming.

The false chinch bug was very abundant during the middle of the month in the West Central States, reports having been received from Iowa, Nebraska, and Kansas. It was also reported from Colorado, Utah, and California. In California the outbreak is the worst ever recorded.

The Mexican bean beetle continues to be seriously abundant throughout its entire range.

Brood XIX of the periodical cicada, the largest of the 13-year broods, appeared during late May and early June over the greater part of the territory known to be infested. This brood covers the territory from central Illinois and northeastern Missouri southward over Arkansas and eastern Oklahoma to the northern border of Louisiana and extends eastward across Tennessee and Alabama into Georgia and the Carolinas.

Fall and spring canker worms were generally prevalent from the New England States and New York westward to the Dakotas and Nebraska.

The forest tent caterpillar is abundant throughout the mountainous regions from Maine southward to central Virginia. An outbreak of this insect is also reported from northeastern Colorado.

THE MOST IMPORTANT ENTOMOLOGICAL FEATURES IN CANADA FOR JUNE, 1933.

Over a large part of the Dominion the spring season was cool and late, and work on the land and seeding operations were reported more backward than in any year since 1928. A report at the end of May stated that throughout the West general soil-moisture conditions were better than for several years. However, in June there were complaints of shortage of moisture in certain areas of the Prairie Provinces and more precipitation would be welcomed, particularly in west-central Saskatchewan and in southwestern and central Alberta.

In general, reports from various parts of eastern Canada and British Columbia indicate that insect damage to field and fruit crops, so far, is comparatively light. In the Prairie Provinces the hatching of grasshoppers was general by the first week in June over considerable areas and, as expected, an outbreak of serious proportions was developing. Strenuous efforts to cope with this outbreak by means of poisoned baits are being made.

Cutworms appeared to be less threatening in the Prairie Provinces than during the past few years. Local losses due to the pale western cutworm occurred in Alberta and at various points in central and east-central Saskatchewan, but in both Provinces the outbreak of this species was generally less severe than in 1932. Exceptionally few complaints of cutworm damage have been made in the Okanagan Valley, British Columbia, but considerable trouble

from these insects was reported from the Kamloops district. Some truck and garden crops in southern Quebec were seriously attacked by cutworms, and local damage by several species occurred in some sections of Ontario.

Extensive damage to grain by wireworms was reported in Alberta and in the Assiniboia-Swift Current area of Saskatchewan. Local damage by wireworms was noted in eastern Ontario.

Injury by white grubs is already heavy in eastern Ontario where beetle flights occurred in 1932. The damage will reach its maximum this year in the autumn. White-grub infestations were reported from southern Quebec and southern New Brunswick.

Flea beetles have again proved troublesome on truck crops in parts of British Columbia, and on garden truck and sugar beets locally in southern Alberta and Saskatchewan. Local damage by flea beetles was also noted from Ontario and southern Quebec.

The cabbage maggot has caused some damage in the Okanagan valley, British Columbia, and root maggots are generally abundant on irrigated truck farms in the Lethbridge area, Alberta.

Insect pests of the apple are generally less in evidence than usual in the Annapolis valley, Nova Scotia.

An unusually severe outbreak of grape leafhoppers is expected in the Niagara district, Ontario, unless control measures are adopted. In this section, too, there is an outbreak of the black cherry aphid which is proving unusually troublesome on sweet cherry.

Observations at certain points in the Niagara district, Ontario, indicate that the population of overwintering adults of the oriental fruit moth was small compared with 1932. The spring brood was considerably smaller than that of last year and twig injury was reduced. It is too early to estimate accurately the final size of the generation.

Outbreaks of leaf-eating caterpillars in certain parts of Ontario and in the eastern townships of Quebec, were given much newspaper publicity in early June. Tent caterpillars and canker worms apparently were the chief species concerned. A heavy infestation of cankerworms also extended along the Red River valley, Manitoba. A decided increase of tent caterpillars was evident throughout eastern Canada this season.

A general infestation of the willow leaf beetle developed in Saskatchewan and Manitoba, on poplars and willows, and a heavy larval infestation is likely to follow. Larch foliage was again severely attacked in Eastern Canada by the larch case bearer.

In many parts of the Dominion mosquitoes and blackflies are proving more numerous and troublesome than during recent years. Severe infestations of mosquitoes have been reported in Quebec, Ontario, Manitoba, and British Columbia; an unusual abundance of blackflies have been noted in parts of Ontario, particularly in forested sections.

Recent reports indicate that among stored-product pests, spider beetles, Ptinus spp., are prevalent in many parts of the Dominion.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Illinois. W. P. Flint (June 19): Grasshoppers have been hatching for the past two weeks in central Illinois. They are slightly more abundant than last year.

Wisconsin. C. L. Fluke (June 19): Grasshoppers are very abundant.

Minnesota. A. G. Ruggles (June 26): Fifty-five counties are organized for control. Control has been perfect.

North Dakota. J. A. Munro (June 15): Grasshoppers are generally prevalent over the areas indicated by the 1932 Federal survey. The situation is very serious in the southwestern counties and a few of the north-central counties.

F. D. Butcher (June 12): Hatching in the eastern and northern parts of the State seems to be almost over. I find a few fourth-instar Melanoplus bivittatus Say now, but most of them are younger. Rains of the last ten days, which have been intermittent, are responsible for destroying a few of those which had been out only a few hours. (June 20): There has been no material change in the situation in the State during the past week. All the eggs except possibly those of M. differentialis Thos. have hatched. The hatching period has been of shorter duration than it was a year ago. Very high temperatures the last few days of last week brought many hoppers from the roadsides into the fields. (June 21): I saw my first adult M. bivittatus today. R. L. Shotwell reports that on June 19 he saw one adult and one first-instar nymph near Dickinson, Stark County. He also reports seeing an adult M. mexicanus Sauss. on June 16.

South Dakota. H. C. Severin (June): Grasshoppers are very abundant, chiefly M. differentialis, M. bivittatus, and M. mexicanus, but not so abundant as in 1931.

Iowa. C. J. Drake (June 19): Grasshoppers have appeared in destructive numbers in Woodbury and Plymouth Counties, in areas not poisoned last year. M. differentialis and M. bivittatus are the principal species involved.

Nebraska. M. H. Swenk (May 20 - June 20): Grasshoppers were hatching in southern Nebraska by May 13, but not in the large numbers in which they appeared in 1930, 1931, and 1932. However, in northern Nebraska, grasshoppers have again hatched out in the same large numbers as during the past three springs. They became much in evidence in the pastures and small grains about June 1, and a week or ten days later it became evident that very serious damage to the corn was impending. The chief species concerned were M. bivittatus, M. differentialis, and M. femur-rubrum DeG., though there were also unusual numbers of adults of Pardelophora (= Hippiscus) haldemanni Scudd. and P. apiculata Say as well as nymphs of Arphia sp. On June 13 the M. bivittatus nymphs were mostly in the third instar, while those of M. differentialis were mostly in the second instar. Some M. femur-rubrum were adult. Several carloads of poisoned-bran bait were shipped into this section about the middle of June.

Kansas. H. R. Bryson (June 22): Grasshoppers are more plentiful at Manhattan this year than last. Reports have been received from Madison and Grenola. M. bivittatus is the most numerous.

Oklahoma. C. F. Stiles (June 13): Grasshoppers of various species are very numerous in pasture land in Custer, Roger Mills, and Beckham Counties and parts of Kiowa County. If dry weather continues, we expect considerable damage to the cotton fields located near pasture land. So far M. differentialis, which does the most damage in Oklahoma, has not made its appearance in large numbers.

Mississippi. C. Lyle (June 22): On June 15, grasshoppers, chiefly M. differentialis, were causing great damage to thousands of acres of corn, soybeans, and cotton at Parchman. In several fields the cotton had been destroyed completely. The hoppers seemed to prefer soybeans and had completely stripped hundreds of acres of this crop. Most of the hoppers were about half grown or younger. All the land had been broken during the winter, ditch banks closely plowed, and all field margins cleanly cultivated, but there were myriads of the hoppers present in spite of these preventive measures. Because of the necessity for quick action, three airplanes were being used to dust with calcium arsenate while poisoned bait was being distributed in large quantities. Lack of rain for two or three months past increased the severity of the outbreak.

Texas. F. L. Thomas (June 21): Grasshoppers are very abundant at Calvert and Barstow, where they practically destroyed the cotton in a 10-acre field.

Montana. A. L. Strand (June 20): The northeastern counties in Montana are suffering from a severe outbreak of the lesser migratory grasshopper, M. mexicanus. This outbreak centers in Valley and western Daniels and Roosevelt Counties.

Wyoming. C. L. Corkins (June 20): Grasshoppers are very abundant. The Bighorn Basin has the worst grasshopper outbreak in its history. Five cars of poison are now out and the job is about half completed.

Utah. G. F. Knowlton (June 15): Grasshoppers are causing more or less damage in various localities throughout the State. But in general the populations are lower than at this time during the past two seasons. Early nymphs of a few species had become adults by June 9, in the Grantsville - Flux areas. Adults of M. mexicanus, M. bivittatus, Trimerotropis vinculata Scudd., and two other species were taken.

Nevada. G. G. Schweis (May): Grasshoppers of several species are reported as very numerous in various parts of western Nevada. It is anticipated that control measures will be necessary.

CUTWORMS (Noctuidae)

Virginia. W. J. Schoene (June 23): Cutworms have been reported as injuring field crops in several sections. Barley and rye were the main crops injured, although corn suffered to some extent. In some fields near Timberville the damage to barley reached 90 per cent. Reports of injury were also received from the bottomland on the James River east of Richmond.

Ohio. T. H. Parks (June 14): The black cutworm has destroyed 50 acres of corn in Franklin County river bottom land which overflowed in March. It is not present in upland corn. Larvae are nearly full grown now. Received specimens also from Clinton and Fayette Counties with the statement that they had destroyed 1/3 of the plants in a few fields. Also attacking corn at Columbus.

- Indiana. J. J. Davis (June 20): Probably the outstanding insect outbreak of the month has been that of the black or greasy cutworm (Agrotis ypsilon Rott.), which is known as the overflow worm in the southwestern part of the State. We had a report of cutworms from Knox, June 5, the species involved being unknown. However, we have authentic specimens from Otterbein, Newtown, and Kokomo, the first report being received June 13, at which time all stages of cutworms were observed. Reports from the vicinity of Fowler indicate that thousands of acres of corn have been taken.
- Illinois. W. P. Flint (June 19): Several species of cutworms have been causing serious injury in central and northern Illinois. In the low or overflow areas along the rivers the damage has been caused mainly by the black cutworm, A. ypsilon. In the north-central part of the State many spring-plowed fields have been seriously damaged by the clay-backed cutworm, Feltia gladiaria Morr. These two species are by far the most destructive and abundant this year.
- Tennessee. G. M. Bentley (June): A. ypsilon and Lycophotia margaritosa saucia Hbn. are very abundant in eastern and middle Tennessee.
- North Dakota. J. A. Munro (June 15): A report from Bantry (McHenry County), June 5, states that cutworms (Porosagrotis orthogonia Morr.) are widespread and have destroyed large fields of corn and other crops.
- Iowa. C. J. Drake (June 19): Cutworms, here and there, have done considerable damage this spring. The county agent reported that the cutworms have destroyed a 10-acre field of corn in Montgomery County.
C. N. Ainslie (June 12): Various species of cutworm moths are unusually abundant this spring in northwestern Iowa, and are a general nuisance because of their habit of entering houses and hiding during the day in dark corners or behind screen doors. They are reported attacking gardens in Woodbury County.
- Missouri. L. Haseman (June 24): A very heavy infestation of variegated cutworms (L. margaritosa saucia) occurred in the eastern counties in alfalfa. Dipterous parasites are very abundant. Few moths have emerged.
- Nebraska. M. H. Swenk (May 20 - June 20): Cutworms have been reported as numerous in Garden County the last week in May and also in Dawes County the middle of June. A complaint concerning damage in alfalfa by the dark-sided cutworm (Euxoa messoria Harr.) was received on June 3 from Perkins County. Numerous inquiries were received concerning a great abundance of the moths of the army cutworm (Chorizagrotis auxiliaris Grote). These reports came from Pierce, Madison, Boone, Keith, and Lancaster Counties from June 7 to 13.
- Mississippi. C. Lyle (June 22): On May 23 G. I. Worthington sent us a number of beetles collected from an alfalfa field at Shaw in Bolivar County, which had previously shown a heavy infestation of cutworms. He wrote that the ground was alive with these beetles, there being one every 6 inches over 40 acres. Specimens were identified by L. L. Buchanan as Anisodactylus sericeus Harr.
- Texas. F. L. Thomas (June 21): Cutworms are very abundant and damaging alfalfa.

ARMYWORM (Cirphis unipuncta Haw.)

Pennsylvania. C. A. Thomas (June 21): A considerable outbreak of armyworms is now occurring in southern Chester County, especially in the area between West Grove and Oxford, along Route 1. Six farms in this area were found to be more or less infested, one farm showing an 80 per cent reduction in barley because the worms cut off the heads. An unidentified tachinid fly laid eggs upon approximately 25 per cent of the larvae in one field, but the parasitization in other fields was very low. Starlings and grackles ate many of the larvae. Corn and alfalfa were also severely injured in some fields.

West Virginia. L. M. Peairs (May 26): Armyworms are numerous but scattered; they are full grown.

Maryland. E. N. Cory (June 22): Armyworms are doing serious injury to barley, wheat, and pastures in Kent, Somerset, St. Marys, Baltimore, Harford, Frederick, and Washington Counties.

Washington, D. C. W. R. Walton (June 22): A heavy flight of armyworm moths occurred last night, and many moths are flying about in buildings today.

Tennessee. C. Benton (May 26): Twenty acres of mixed barley and clover were seriously injured near Petersburg, Lincoln County. Barley was practically all cut off about an inch below the heads. Crimson clover leaves are largely eaten but the heads are undisturbed. Worms will be about full grown by May 31.

SOD WEBWORMS (Crambinae)

Kentucky. W. A. Price (June 24): Sod webworms have been especially troublesome in corn and tobacco fields. Many fields have one third of the crop ruined by these pests.

Tennessee. C. Benton (May 31): Some damage by sod webworms to newly set tobacco plants near Fayetteville, Lincoln County, is reported.

WEBWORMS (Loxostege spp.)

Indiana. J. J. Davis (June 20): The alfalfa webworm (L. similalis Guen.) was reported as destructive to alfalfa at Elkhart, May 31. There is indirect information that this pest may have been destructive elsewhere.

Minnesota. A. G. Ruggles (June 26): The sugar beet webworm is reported as bad in Freeborn County on onions and in Redwood County on corn.

Montana. A. L. Strand (June 20): The beet webworm moths have been flying since the last few days in May. Many eggs and young larvae are now present. An outbreak, somewhat less intense than that of 1932, is expected.

Wyoming. C. L. Corkins (June 20): Alfalfa webworms are now hatching. There will be spotted infestations of both the alfalfa and sugar beet webworms, but not the general infestation of last year and not nearly so much damage.

Colorado. G. M. List (June 26): The alfalfa webworm L. commixtalis Walk. wintered in exceedingly large numbers, but rainy and cold weather, which occurred just

after emergence started, so divided the brood and interfered with egg laying that the injury is not proving to be as much as anticipated. However, many sugar beets are being sprayed and some injury is occurring to alfalfa and certain truck crops. The sugar beet webworm (L. sticticalis L.) is appearing in large numbers. The injury from larva is just beginning to be noticeable. It will be quite general on sugar beets in the eastern half of the state and reports indicate that spinach, lettuce and certain other high altitude vegetable crops are going to suffer.

Utah. G. F. Knowlton (June 21): Sugar beet webworm moths are becoming alarmingly abundant in many localities. Because of the serious injury caused last year, many farmers are requesting information.

WHITE GRUBS (Phyllophaga spp.)

Connecticut. W. E. Britton (June 23): Adults of P. tristis Fab. were abundant, with an occasional P. fusca Froel. feeding upon the leaves of raspberry at Orange.

New York. P. M. Eastman (June 16): A farmer writes that the ground is full of the grubs. Potatoes are being eaten up.

Maryland. E. N. Cory (June 22): P. futilis Lec. and P. hirticula Knoch are attacking elms and oaks in Baltimore County.

Missouri. L. Haseman (June 24): White grubs are less serious than usual. Emergence of beetles is fairly heavy in central Missouri.

A. F. Satterthwait (May): The manager of Tower Grove Park, St. Louis, on May 27 reported defoliation of sweet-gum and of pin oak trees. The sample beetles sent were P. micans Knoch.

ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

New York. C. H. Hadley (June 23): The first adults on Long Island in 1933 were found at Jericho on June 19. This has been the most destructive insect in vegetable gardens in Nassau County this spring, severe injury having been caused during May and June to many vegetables in gardens by the feeding of the larvae. Approximately 80 percent of the vegetables (including transplanted cabbage, peppers, and tomatoes) in a large community garden at Glen Cove were destroyed in spite of replanting efforts. The greatest injury has occurred in gardens in the northern half of Nassau County which were in sod last year, but several gardens which have been well cultivated for several years also suffered severe loss of vegetables.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Connecticut. W. E. Britton (June 23): A. orientalis continues to injure untreated lawns. Adult beetles are now emerging. Reported at New Haven.

JAPANESE SERICA (Serica similis Lewis)

New York. C. H. Hadley (June 23): S. similis was observed at Mill Neck, June 15 to 19, when adults were taken in the traps which had been placed to capture Japanese beetles. This gives a new distributional record for the insect. The adults have been quite abundant at lights on warm nights at Westbury and Mineola.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Maine. H. B. Peirson (June): The rose chafer was stripping cornfields at Augusta June 17, and stripping roses June 20. It was stripping foliage of ash-leaf maple, blackberry, gray birch, white birch, and willow on June 18 at Augusta, Portland, and Waterville.

New Hampshire. J. G. Conklin (June 23): The rose chafer is fully as abundant as last year. Several orchardists report injury to young apple trees. Severe injury to peach trees was also recorded.

Vermont. H. L. Bailey (June 26): Rose chafers are very abundant. Reports have come from Franklin and Washington Counties of particularly heavy outbreaks.

Massachusetts. A. I. Bourne (June 24): Probably the outstanding pest of the month of June was the rose chafer. The first appearance in large numbers coincided with the hot, dry weather. The beetles were extremely active and caused considerable damage before gardeners realized that the pest was present. It has attacked garden crops, small fruits, orchards (both leaves and the forming fruit), and many ornamentals, as well as grape and rose. At the present time the attack is lessening somewhat and the beetles are beginning to disappear, but it has proved to be one of the most severe attacks which we have had for several years. Even in well-sprayed orchards it has not been uncommon to find them seriously gouging out forming fruits of apple and peach. Very often as many as 20 to 25 of the beetles have been collected on one peach. Numerous complaints of the beetles attacking strawberry plantings, riddling the leaves and even devouring the berries, have been received. Raspberries and blackberries have been attacked very severely and the pest has even been found to riddle the foliage of poison ivy. It might be of interest to note that in one field in Agawam, in central Hampden County, the rose chafer was observed early in June to be on the whole more destructive to the beans than was the Mexican bean beetle.

Connecticut. W. E. Britton (June 23): M. subspinosus is more abundant than usual on apple, peony, and rose at New Haven and Watertown.

New York. P. J. Parrott (June 20): The rose chafer is very abundant from Albany to Buffalo.

C. H. Hadley (June 23): The rose chafer is abundant at Westbury, Long Island, especially on roses and viburnum, and conspicuous defoliation has been observed. In some cases 25 per cent of the foliage of viburnum has been destroyed.

Indiana. J. J. Davis (June 20): The rose chafer was damaging apple fruits at Evansville, May 29.

Michigan. R. Hutson (June 17): The rose chafer is moderately abundant.

WIREWORMS (Elateridae)

Pennsylvania. C. A. Thomas (May 29): The wet weather during May has been very favorable for wireworms. Thousands of Pheletes agonus Say larvae were found to be damaging cabbage, corn, seed potatoes, rutabagas, etc., in Bucks and other southeastern counties, while in the western part of the State the chief injury was done by larvae of Agriotes mancus Say and Melanotus sp. (June 21): Wireworm

have continued to injure truck crops during the wet periods of early June. A cornfield examined near Oxford, Chester County, on June 20 was about 40 per cent destroyed by larvae of a species of Melanotus, which were boring into the base of the stalks and killing the central leaves of the plants.

North Carolina. C. H. Brannon (May 22): Wireworm damage to tobacco is reported over a wide area.

Michigan. R. Hutson (June 17): Wireworms, chiefly A. mancus, are moderately abundant in localized areas.

North Dakota. J. A. Munro (June 15): We have had considerable trouble with wireworms in Barnes County this last week and in many places the grain is entirely destroyed. Wireworms were very injurious to iris plants at Sheyenne and at Fargo. Injury to corn in the vicinity of Page is serious.

Iowa. H. E. Jaques (June): Wireworms are scarce in Monona, Harrison, Guthrie, Hancock, Madison, Grundy, Poweshiek, and Muscatine Counties; moderately abundant in Crawford, Carroll, Palo Alto, Union, Warren, Chickasaw, Buchanan, and Davis Counties; and very abundant in Osceola County.

Alabama. K. L. Cockerham (May 31): The injury to the potato crop at Foley by Heteroderes laurentii Guer., although not so severe as that of two years ago, has been quite general. An examination of certificates of shipping-point inspections showed the wireworm injury was approximately as great as the combination of all other defects, such as decay, cuts and bruises, sun scald, growth cracks, mechanical injury, and scab. Probably the average of injury was from 2 to 4 percent.

Missouri. L. Haseman (June 24): During the month a very heavy emergence of an unidentified species of wireworm occurred in central Missouri.

MORMON CRICKET (Anabrus simplex Hald.)

Idaho. R. W. Haegeler (June 19): The outbreak of the mormon cricket in Bingham County is severe; control work has prevented damage to crops. It is occurring in outbreak numbers in Bonneville and Bannock Counties, and there are light infestations in Caribou and Elmore Counties. The insects are nearly mature, except in Caribou County, where hatching did not start until early June.

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

Texas. J. N. Roney (June 15): The golf courses of Galveston Island are heavily infested and in many instances greens have been ruined.

CEREAL AND FORAGE - CROP INSECTS

CORN

CHINCH BUG (Blissus leucopterus Say)

Ohio. T. H. Parks (June 28): An outbreak of chinch bugs occurred in Madison County where the young bugs had destroyed a field of spring barley and were crossing

to a cornfield joining. About 1/3 of the corn was already plastered with bugs. This locality has suffered from drought. Today we learned of a similar outbreak in Delaware County.

Indiana. J. J. Davis (June 20): Chinch bugs are moderately abundant in isolated localities. They were reported as heavily infesting a barley field at Earl Park, June 13.

Illinois. W. P. Flint (June 19): In spite of the heavy rains during all the early part of May, sufficient numbers of chinch bugs survived to threaten injury over about two-thirds of Illinois. The extreme northern and southern parts of the State will escape injury. Many cases have been reported of fields that became grassy and were later plowed and planted to corn, where the bugs are now killing the corn.

Iowa. C. J. Drake (June 19): The chinch-bug situation is becoming quite serious in southern Iowa. The infestation includes the two southern tiers of counties from Page to the Mississippi River. Several fields of small grain and a few fields of corn have already been plowed up and planted to soybeans. In a number of instances the first-generation bugs are feeding in the cornfields. The present infestation is more serious and widespread than the outbreaks in 1924. Weather conditions this spring and summer have been very favorable for the chinch bugs.

Missouri. L. Haseman (June 24): Chinch bugs are doing considerable damage to wheat, oats, and barley, moving to corn last. The infestation is worst in the north-central part of the State.

Nebraska. M. H. Swenk (June 20): The center of greatest abundance seems to be Lancaster and Saline Counties, but the bugs are more than ordinarily plentiful over much of southeastern and southern Nebraska. A report from as far to the northwest as Boone County indicates that they were locally abundant there. Owing to the early drying-up of the barley and oats, the migration started shortly after the middle of June, which is earlier than usual in this locality, and was at its height on June 20. Considerable damage to corn will undoubtedly result from the chinch bug depredations.

Kansas. H. R. Bryson (June 22): Chinch bugs are more injurious at Manhattan and surrounding territory than they have been since 1927. A considerable infestation occurs in corn and sorghum fields as a result of old bugs laying eggs at the bases of the corn plants. Migrations from the small-grain fields to the corn and sorghums began about ten days earlier than normal. This condition was occasioned by the hot, dry weather, which hastened the maturity of wheat, oats, and barley. Counties in the eastern part of the State, which have received heavy rains during May and the first part of June, have less injury. Reports of injury have come from Canton, Meriden, Howard, Willard, Elk Falls, and various points in the vicinity of Manhattan.

Oklahoma. C. F. Stiles (June 13): Chinch bugs are still very numerous in the east-central part of the State, with the center of infestation at the present time around Sapulpa, in Creek County. Some of the sweet corn in the city gardens located near wheat fields are being destroyed by chinch bugs migrating from the fields. Corn and other row crops are being heavily infested by migrating chinch bugs, in 10 counties at the present time.

Texas. F. L. Thomas (June 21): Chinch bugs were abundant and injuring sudan grass at Waco on June 8.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Georgia. J. M. Ingram (June 2): The lesser corn stalk borer was found to be causing quite a bit of injury to sugarcane at Cairo.

G. H. Firor (June): E. lignosellus has caused commercial damage to the corn crop of southern Georgia.

Florida. F. S. Chamberlin (June 10): The lesser corn stalk borer occurs in injurious abundance throughout Gadsden County. Late-planted corn is sustaining the most damage, which in some instances amounts to a complete loss.

J. R. Watson (June 28): During late May, particularly, there was heavy outbreak throughout all northern Florida from Marion County north and west. Damage was chiefly to corn, especially late-planted corn, but cane was injured also.

Injured corn is still breaking off with every heavy wind. In some fields in Alachua County the loss was as high as 75 per cent of the crop. Where corn was planted after a crop of Irish potatoes, even although the corn was late there was no injury.

Alabama. J. M. Robinson (June 21): We have had a considerable outbreak of the lesser corn stalk borer and also the larger corn stalk borer (Diatraea crambidoides Grote) from the following counties: Morgan, Sumter, Chilton, Lee, Loundes, Clarke, Washington, Conecuh, Covington, Geneva, and Henry. It has been quite active in southern and central Alabama where from 5 to 50 per cent of the crop is damaged, and is also reported from the Tennessee Valley. Apparently the corn is receiving more damage from the lesser corn stalk borer than the larger. However, it is not unusual to have corn sent in with the larvae of both insects in the same plant.

K. L. Cockerham (June 8): The lesser corn stalk borer was doing considerable damage to field peas at Delchamps, Mobile County, on June 8. Many plants were being killed.

Louisiana. W. E. Hinds (May 29): The lesser corn stalk borer occurs in many fields of corn in eastern Louisiana.

Mississippi. C. Lyle (June 22): Probably no insect attracted as much attention in Mississippi during the past month as did the lesser corn stalk borer. Severe injury to young corn was reported from a large number of counties in the southern half of the State.

CORN EAR WORM (Heliothis obsoleta Fab.)

New Jersey. T. J. Headlee and R. C. Burdette (June 23): The corn ear worm is very abundant.

Missouri. L. Haseman (June 24): At Columbia a few corn ear worms have appeared in pea pods and some in tips of early corn plants.

Alabama. K. L. Cockerham (May 29): At Foley on May 29 green corn harvested for early shipment was very severely damaged. Fully 50 per cent of the corn was rejected at the packing sheds and approximately 99 per cent of all ears showed injury. This is the heaviest damage noted in several years. The varieties of corn being shipped were silver mine, silver king, and truckers favorite.

Mississippi. C. Lyle (June 22): On May 27 a correspondent at Heidelberg in Jasper County sent us specimens with a report that the worms were abundant on hairy vetch. Heavy damage to tomatoes has recently been reported from Midnight in Humphreys County, Rulesville in Sunflower County, Caledonia in Lowndes County, and Lumberton in Lamar County.

SOUTHERN CORN STALK BORER (Diatraea crambidoides Grote)

North Carolina. R. W. Leiby (June 20): Several complaints of damage to corn indicate that it is more prevalent than usual.

Alabama. J. M. Robinson (June 21): The following counties are where we have had specific records: Tallapoosa, Lee, Russell, Montgomery, Pike, Dale, Henry, Covington, Geneva, and Houston. Apparently the larger corn stalk borer is restricted in its activity to southeastern Alabama.

STALK BORER (Papaipema nebris nitela Guen.)

Illinois. W. P. Flint (June 19): First evidence of injury in the vicinity of Urbana was observed during the first week in June.

Kentucky. W. A. Price (June 24): The stalk borer is reported as doing some damage to corn in the Danville area.

Iowa. C. J. Drake (June 19): The common stalk borer is just beginning to appear in destructive numbers in the cultivated fields.

Missouri. L. Haseman (June 24): Just a few stalk borers showing up during the last 10 days of June.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Maryland. E. N. Cory (June 22): E. rugiceps are reported on sunflowers in Cecil County.

Georgia. J. W. Ingram (June 2): The sugarcane beetle was found to be causing some injury to sugarcane near Cairo.

Tennessee. G. M. Bentley (June): This beetle was fairly common in cornfields in eastern and central Tennessee during the early part of June.

Alabama. J. M. Robinson (June 21): The sugarcane beetle is very abundant on cane at Carrollton.

Mississippi. C. Lyle (June 22): Medium injury to corn was reported on June 13 from Mount Olive in Covington County, and on June 14 from Smithdale in Amite County.

CARROT BEETLE (Ligyrus gibbosus DeG.)

Tennessee. G. M. Bentley (June): The carrot beetle was fairly common in cornfields in eastern and central Tennessee during the early part of June.

Louisiana. W. E. Hinds (May 29): The work of this beetle in cane fields and on young corn has nearly ceased. The beetles have been widely distributed on various soil types this season and have been reported from a number of localities in the northern part of the State.

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Lec.)

Kansas. H. R. Bryson (June 22): One report from Belleville showed one field of corn practically ruined.

ALFALFA

ALFALFA WEEVIL (Hypera postica Gyll.)

Utah. G. F. Knowlton (June 24): The alfalfa weevil is moderately to very abundant in central and northern Utah. Damage is apparent in many parts of Utah, and much of the alfalfa has been cut to stop the injury.

Nevada. G. G. Schweis (May): Damage was somewhat spotted throughout Nevada. In some sections control measures were necessary; while in other parts weevils were not at all numerous, and even scarce.

California. A. E. Michelbacher (June 19): The alfalfa weevil populations in the various districts are low. For the most part all over middle California the alfalfa has been cut the second time. In the Tracy area the weevil is very scarce, while in the area about Pleasanton the pest can still be found with considerable ease. In the region around Niles the weevil can be collected, but not in large numbers.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Indiana. H. R. Painter (May 31): The clover leaf weevil was moderately abundant in Tippecanoe County early in the season, but scarcer by the end of May.

Kansas. H. R. Bryson (June 20): The clover leaf weevil is very abundant in alfalfa fields.

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris Fab.)

Indiana. H. R. Painter (May 31): The lesser clover leaf weevil is moderately abundant in Tippecanoe County. Rather heavy mortality of larvae is due to parasites and possibly also disease.

CROTALARIA

BELLA MOTH (Utetheisa bella L.)

Georgia. J. W. Ingram (June 2): Crotalaria near Cairo is being injured.

Alabama. J. M. Robinson (June 21): The beautiful Utetheisa is moderately abundant on crotalaria at Brewton.

Louisiana. W. A. Douglas and J. W. Ingram (May 25): We found 25 per cent of the crotalaria plants in a field near Franklin injured. Pupae were attached to the leaves in a very light sort of web.

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

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- New York. P. J. Parrott (June 20): The codling moth is very abundant in western New York.
- N. Y. State Coll. of Agr. News Letter (June): Hot weather during the second week in June accelerated egg hatching in both the Hudson River Valley and western New York. Otherwise conditions seem about normal. (Abstract, J.A.H.)
- Delaware. L. A. Stearns (June 23): Spring-brood emergence is about ended; first-brood injury is generally much lower than that of 1932, 1931, and 1930.
- Pennsylvania. H. N. Worthley (June 8): At Biglerville, Adams County; larvae were first seen entering the fruit on May 28, and fresh entry was noticeable during the first week in June. High temperature is causing rapid emergence of moths. The 50 percent point of overwintered brood emergence was passed during the first week in June.
- Ohio. C. R. Cutright (May 29): Emergence in orchards at Wooster started about normal while cage emergence did not start till a week later. Owing to warm weather the emergence has been rapid, with moths quite active.
- Indiana. J. J. Davis (June 19): The codling moth is very abundant in southern Indiana.
- Illinois. W. P. Flint (June 19): The codling moth is more abundant in most orchards than at any time during the past 20 years. The weather on the whole has been favorable for first-brood development. Larvae are now going under bands throughout the southern two-thirds of the State. Second-brood hatching is expected in the Johnson, Union, Jackson County areas July 4-5, with considerable numbers of worms hatching by July 7-8. In the south-central part of the State the first hatch will occur in the Flora, Olney, Salem, southern Calhoun County sections July 6-7, with hatch in numbers by July 10-12. In central Illinois in the Adams, Logan, DeWitt, Vermillion County areas the first hatch will be about July 10-11, with a considerable hatch by July 13-14. The first-brood infestation is very heavy in many orchards, and, because of the light crop and scabby condition of the fruit, it will be necessary to spray very thoroughly in order to control second-brood worms.
- Wisconsin. C. L. Fluke (June 19): Codling moths are moderately abundant. The first heavy flight of adults occurred June 9 and 10. Not so abundant as last year.
- Missouri. L. Haseman (June 24): Indications are that we will have heavy broods of late worms. Moths of the second brood are beginning to emerge in the southern part of the State. Pupating June 24 at Columbia and in northern Missouri.
- Oregon. D. C. Mote (June 14): The peak of egg laying was reached June 12. Egg laying is late because of prolonged wet weather.
- California. H. J. Ryan (June 20): The codling moth in walnuts will not have the usual peak brood. A delayed summer (about 30 days late) retarded spring

emergence but by June 19, following a week of warm weather, a considerable number of moths had emerged. It now looks as though the brood would be heavy but spread out, and, owing to hardening of the walnut shells as summer advances, the injury may be comparatively slight. The development of the codling moth in apples and pears in the Antelope Valley has also been delayed. The fruit crop is light, owing to spring frosts.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

New Jersey. T. J. Headlee and R. C. Burdette (June 23): The eastern tent caterpillar is very abundant.

Delaware. L. A. Stearns (June 23): The eastern tent caterpillar was very abundant in New Castle County throughout May.

Pennsylvania. A. B. Champlain (May-June): The eastern tent caterpillar is very abundant on wild cherry and apple in Dauphin County. Adults started flying June 10 and were plentiful June 10-18.

C. A. Thomas (May 29): Tent caterpillars have been very abundant in southeastern Pennsylvania during May, and have defoliated many apple trees as well as wild cherries. At the present time they have generally left their webs and have gone to other plants and down to the ground.

West Virginia. L. M. Peairs (June): The eastern tent caterpillar is very abundant in northern West Virginia. Webs still show at high elevations.

Virginia. R. A. St. George (May): The extent of defoliation is not regarded as being severe, so far as the area is concerned, but individual trees were often found completely stripped. The insect was present along both sides of the mountain, where it confined its activity to defoliating apple and wild cherry trees. The tents were quite conspicuous in central Virginia.

Ohio. E. W. Mendenhall (June 26): The eastern tent caterpillar is very abundant on apple and other trees.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

California. E. O. Essig (June 19): The fruit tree leaf roller is very abundant in a few areas along the coast.

APHIDS (Aphidae)

Connecticut. W. E. Britton (June 23): Rosy apple aphids (Anuraphis roseus Baker) are moderately to very abundant.

M. P. Zappe (June 21): Very few rosy apple aphids were seen early in the season. Apparently they reproduced rapidly and are now quite abundant.

New York. N. Y. State Coll. of Agr. News Letter (June): The apple aphid (Aphis pomi DeG.) continued to increase during the month. However, no serious damage was done. The rosy apple aphid increased rapidly early in the month and assumed epidemic proportions in the eastern part of the State during the first week of the month. By the middle of the month the outbreak had practically subsided. (Abstract, J.A.H.)

New Jersey. T. J. Headlee and R. C. Burdette (June 23): Rosy apple aphids and green aphids are very abundant.

West Virginia. L. M. Peairs (June): Rosy aphids and green aphids are very abundant in general. The worst infestation in 10 years.

Pennsylvania. H. N. Worthley (June 8): During May, with a comparative scarcity of predators, the rosy aphid population reached epidemic proportions. They are now leaving apple, having claimed nearly 50 per cent of the crop in Adams County, and colonies are starting on narrow-leaved plantain.

Ohio. J. S. Houser. (May): Aphids are moderately abundant; all species, rosy, apple-grain (Rhopalosiphum prunifoliae Fitch), and green, are present on apple and sweet cherry.

Michigan. Ray Hutson (June 13): The green aphid is appearing on apple. It is showing up at Farmington, also all through the eastern part of the State.

Tennessee. G. M. Bentley (June): A. pomi is moderately abundant in eastern Tennessee.

Missouri. L. Haseman (June 24): Rosy aphids have cleaned up where they were formerly at work.

Mississippi. C. Lyle (June 22): Apple leaves infested with A. pomi were received from Rio, Kemper County, on June 12; while leaves from "burning bush" infested with this species were collected at Kosciusko on May 23.

Nevada. G. G. Schweis (May): Very little damage from fruit aphids is reported.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Massachusetts. A. I. Bourne (June 24): According to Professor Whitcomb, the first emergence occurred at Waltham on June 22. This would tend to indicate that the flies will probably be appearing in the orchards at the normal time or possibly earlier.

New York. N. Y. State Coll. of Agr. News Letter (June): Apple maggot flies have been reported emerging in Orange County since June 10. They were observed on Red Astrachan June 14 in Dutchess County. The first flies were observed in a Jonathan orchard at Milton, Ulster County, on June 12. Since then, more have been seen in other parts of the county.

ROSE LEAF BEETLE (Nodonota puncticollis Say)

Connecticut. M. P. Zappe (June 21): Beetles are very abundant, attacking a number of shrubs in New Haven County. In one case young pears are being scarred by beetles feeding on the surface and many young pears are half eaten.

E. P. Felt (June 23): The rose leaf beetle was abundant and injurious on roses on Stamford.

New York. N. Y. State Coll. of Agr. News Letter (June): The rose leaf beetle attracted considerable attention by damaging pears and apples in the Hudson River Valley early in the month. (Abstract, J.A.H.)

A CURCULIO (Conotrachelus seniculus Lec.)

Massachusetts. A. I. Bourne (June 24): This species of curculio was collected from apple in Granville. It was causing injury very similar to its famous relative, the plum curculio.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Connecticut. W. E. Britton (June 23): The oriental fruit moth is moderately abundant.

New York. N. Y. State Coll. of Agr. News Letter (June): During the last week in May and the first week in June larvae were observed in the terminals of peach and cherry in the lower Hudson River Valley. By the end of the month they were seriously infesting quince fruit in Orleans County. (Abstract, J.A.H.)

New Jersey. T. J. Headlee and R. C. Burdette (June 23): The oriental fruit moth is moderately abundant.

Delaware. L. A. Stearns (June 23): Twig injury by second-brood larvae is now showing up. First-brood larvae are rather heavily parasitized.

West Virginia. L. M. Pairs (June): The oriental fruit moth is very abundant at Morgantown. Twig infestation is much greater than usual.

Virginia. W. J. Schoene (June 23): The oriental fruit moth adults and larvae are present in very small numbers thus far. Wilted twigs are difficult to find.

Georgia. O. I. Snapp (June 20): The broods of larvae in peach twigs at Fort Valley are now beginning to overlap.

C. H. Alden (June 17): The oriental fruit moth is scarce at Cornelia. Small amount of twig injury to date.

W. H. Clarke (June 20): The oriental fruit moth is scarce to moderately abundant in middle Georgia. Infestation lighter than last year.

Illinois. W. P. Flint (June 19): Mr. Chandler reports the oriental fruit moth as much less abundant than usual in southern Illinois. Little or no damage has occurred. No infested twigs have been found in the central part of the State.

Tennessee. G. M. Bentley (June): The oriental fruit moth is scarce to moderately abundant in eastern Tennessee.

PEACH BORER (Aegeria exitiosa Say)

Georgia. O. I. Snapp (June 16): A couple of days this week were spent collecting larvae at Fort Valley for the season's life-history work. Not a single full-grown larva was taken nor did we find any pupae. This collection involved the examination of many trees and is therefore further proof that under natural conditions the peach borer does not begin to pupate in this locality until late in June.

North Dakota. J. A. Munro (June 15): This is the predominating species of borer in plum trees at Mandan, Morton County.

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

North Dakota. J. A. Munro (June 9): I have found that a few of the borers which are not so numerous at Mandan proved to be the lesser peach borer. This species is abundant at Fargo.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

New York. N. Y. State Coll. of Agr. News Letter (June): Damage was quite severe in the Hudson River Valley during the early part of the month.

New Jersey. T. J. Headlee and R. C. Burdette (June 23): The plum curculio is very abundant.

Delaware. L. A. Stearns (June 23): Emergence of first-brood adults is just commencing. There is considerable parasitization.

Georgia. O. I. Snapp (June 5): At Fort Valley the emergence of first-generation adults from the soil started on May 27. This is 20 days earlier than the first emergence date last year, and 19 days earlier than the first emergence date of 1931. A second brood of larvae is assured. The peak of first-generation adult emergence occurred this year on June 1. (June 20): Although first-generation adults have been emerging since May 27, there has not been any second-generation egg deposition to date. Emergence was heavy in the orchards during the week ending June 16, and we are expecting second-generation eggs before the Hileys are picked. A total of 39,535 larvae were reared from 8 bushels of drops collected near Fort Valley. There are about 8,000 drops in each bushel. This record does not represent the average infestation in this locality this year, but more nearly the maximum infestation, as the drops came from an orchard in which no spray or dust had been applied or other curculio control measures enforced before the drops were picked up. Furthermore, the infested peaches that fell during harvest last year were not removed from this orchard. (June 27): Second-generation egg deposition began today.
W. H. Clarke (June 9): The first adults of the first brood emerged from the soil at Thomaston today.

Ohio. E. W. Mendenhall (June 2): At Columbus the plum curculio is very abundant on sour cherry fruit, causing considerable damage.

Indiana. J. J. Davis (June 19): The plum curculio is moderately abundant in isolated localities.

Illinois. W. P. Flint (June 19): Infestation is very light in all peach-growing sections.

Missouri. L. Haseman (June 24): Larvae have been leaving the fruit during the last 10 days. The infestation is less serious than usual. Stings on apples are abundant. Some larvae have just hatched.

Tennessee. H. G. Butler (June 15): The first brood of the curculio began emerging at the insectary at Harriman June 13. This is 8 days earlier than emergence started in 1932 and 6 days earlier than any previous record during the last 4 years.

PEAR

PEAR BORER (Synanthedon pyri Harr.)

West Virginia. L. M. Peairs (June): The pear borer is reported in Berkeley County. Large numbers of adults were captured in codling-moth bait pails May 26 to June 10.

PEAR SLUG (Eriocampoides limacina Ratz.)

West Virginia. L. M. Peairs (June): Pear slugs are abundant at Morgantown.

CHERRY

CHERRY FRUIT FLIES (Rhagoletis spp.)

Michigan. R. H. Pettit (June 12): The black-bodied cherry fruit fly (R. fausta O. S.) appeared at Gobles in Van Buren County on the 5th of June, at Grand Rapids on the 7th of June, and at Shelby on the 8th of June. The white-banded cherry fruit fly (R. cingulata Loew) emerged at Niles in Cass County June 6 and Benton Harbor June 7.

New York. N. Y. State Coll. of Agr. News Letter (June): The cherry fruit fly (R. fausta O. S.) was observed on a tree on May 31 in Dutchess County. In Ulster County they began emerging by June 2 and six were found the first day. They were first noted in orchards in Columbia County on May 31. On June 2 they began to appear in the traps in small numbers.

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York. N. Y. State Coll. of Agr. News Letter (June): During the first week in June the black cherry aphid did serious damage to cherry in the lower Hudson River Valley and was abundant later in the month in Onondaga and Niagara Counties (Abstract, J.A.H.)

Michigan. Ray Hutson (June 13): It appears that the black cherry aphid is just appearing in northern Michigan--that is, Grand Traverse County, the Leelanau peninsula, and thereabouts. It is more common on water-sprouts than elsewhere.

CHERRY CASE BEARER (Coleophora pruniella Clem.)

Michigan. Ray Hutson (June 13): The cherry case bearer, C. pruniella, is present at Manistee. One grower, on examining some apparently scorched twigs, found that the cherry case bearer was present and that the twigs were not scorched, but were injured by this insect.

CHERRY LEAF BEETLE (Galerucella cavicollis Lec.)

West Virginia. L. M. Peairs (June): The cherry leaf beetle was reported abundant at Franklin June 3.

RASPBERRY

RASPBERRY CANE MAGGOT (Hylemyia rubivora Coq.)

Vermont. H. L. Bailey (June 26): The raspberry cane maggot was causing serious damage to raspberry plants at Roxbury June 17.

Ohio. E. W. Mendenhall (June 22): The raspberry cane maggot is bad in red raspberry plantations at Lancaster, Fairfield County.

RED-NECKED CANE BORER (Agrilus ruficollis Fab.)

Wisconsin. C. L. Fluke (June 19): Raspberries are heavily infested in Dane, Columbia, and Manitowoc Counties.

RASPBERRY SAWFLY (Monophadnoides rubi Harr.)

New York. N. Y. State Coll. of Agr. News Letter (May): The raspberry sawfly is very plentiful this year in Erie County and some larvae are already present.

A FULGORID (Ormenis venusta Melich.)

Mississippi. C. Lyle (June 22): On June 19 a correspondent at Hattiesburg in Forrest County sent to this office a number of plant hoppers of the species O. venusta. She indicated that these hoppers were abundant on raspberries.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York. N. Y. State Coll. of Agr. News Letter (June): By the middle of June the grape leafhopper was occurring in threatening numbers in the Hudson River Valley and also in the extreme western part of the State. (Abstract, J.A.H.)
P. J. Parrott (June 20): Grape leafhoppers are very abundant in the Keuka Lake region.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Michigan. R. Hutson (June 17): The grape berry moth is very abundant.

GRAPE CANE GIRDLER (Ampelogypter ater Lec.)

Massachusetts. A. I. Bourne (June 24): Many complaints have come in of the work of the grape cane girdler. This apparently is more abundant than usual, and our reports indicate that it is rather generally distributed.

FLEA BEETLES (Halticinae)

Florida. J. R. Watson (June 28): Flea beetles have been very abundant, not only on grapes, as usual, but on a great variety of plants, including mangoes and avocados in places in southern Florida. Other plants heavily infested were strawberries, crepe myrtle and various species of evening primrose. The latter seem to be the preferred hosts.

TRUCK - CROP INSECTS

BLISTER BEETLES (Meloidae)

Virginia. C. R. Willey (June 26): Striped blister beetles (Epicauta vittata Fab.) are occurring in outbreak numbers in a potato field near Churchland. I first saw a few June 16; they were "literally swarming" June 24.

Georgia. O. I. Snapp (May 25): E. pennsylvanica DeG. caused considerable damage to vegetables at Fort Valley during May. E. vittata was injuring tomatoes and other vegetables at Marshallville on May 24, and on the following day it was observed to be abundant on beets and cowpeas at Fort Valley.

Florida. J. R. Watson (June 28): Blister beetles are common and injurious to peppers and eggplants, and especially to wild nightshades.

Kentucky. W. A. Price (June 24): Blister beetles are very abundant and are causing much damage to the potato crop.

North Dakota. J. A. Munro (June 15): Numerous reports have been received that Macrobasis unicolor Kby. is causing serious injury to caragana, sweet clover, and alfalfa.

South Dakota. H. C. Severin (June): Blister beetles of 6 species are exceedingly abundant. They are doing much damage to sweet clover, alfalfa, potatoes, many garden crops, some trees, and hedge plants.

Nebraska. M. H. Swenk (May 20 - June 20): Blister beetles (E. cinerea Forst. and E. corvina Lec.) were reported infesting and injuring garden stuff in Knox County on June 13 and destroying potatoes in Lancaster County on June 20.

Kansas. H. R. Bryson (June 22): Blister beetles have begun to cause injury in garden and truck patches. Reports have been received from Miltonville, Whitewater, and Marienthal.

Mississippi. C. Lyle (June 22): Two complaints of serious injury by M. unicolor were received during the first week in June. At Bradley, Oktibbeha County, these beetles almost ruined a field of Irish potatoes, while at Kosciusko, Attala County, they caused severe injury to a field of soybeans.

Wyoming. C. L. Corkins (June 20): Blister beetles of several species are reported, particularly on sugar beets.

FLEA BEETLES (Halticinae)

Mississippi. C. Lyle (June 22): On June 8 a correspondent at Greenville in Washington County sent to this office some flea beetles, Phyllotreta vittata discedens Weise, with the statement that these beetles had seriously injured all of his garden vegetables except tomatoes.

Utah. G. F. Knowlton (June 21): Striped flea beetles, P. vittata, are abundant and damaging tomatoes at Bluff. Black flea beetles are damaging summer squash at Bluff.

FALSE CHINCH BUG (Nysius ericae Sc'hill.)

- Iowa. C. J. Drake (June 19): The false chinch bug is extremely abundant, but as yet it has not been reported as doing any commercial damage.
- Nebraska. M. H. Swenk (May 20 - June 20): On June 5 a report was received of the infestation of an old alfalfa field in Jefferson County. A few days later a report was received stating that this bug had destroyed radishes and was then attacking strawberries in a garden in Thayer County.
- Kansas. H. R. Bryson (June 22): The false chinch bug, which is ordinarily looked upon as a pest of weeds, has turned its attention to garden crops and has caused considerable injury in the eastern one third of the State. The bugs showed a preference for cruciferous crops, such as radishes, mustard, cabbage, and turnips. Reports of injury have been received from Troy, Topeka, Leavenworth, and Wamego.
- Colorado. G. M. List (June 26): This insect is appearing in large numbers somewhat earlier than usual. Indications are that rather severe injury will occur in a number of sections in the eastern half of the State.
- Utah. G. F. Knowlton (June 6): False chinch bugs are reported as causing serious damage to seed beets at St. George.
- California. E. O. Essig (June 19): The greatest numbers and widest distribution of false chinch bugs ever noted by the writer in California. Abundant from the Upper Sacramento Valley to San Diego, where they are injurious to orchards, field crops, truck crops, and vineyards. They are moving from hibernating quarters. Many are only half grown or less.

SALT-MARSH CATERPILLAR (Estigmene acrea Drury)

- Texas. J. N. Roney (June 15): During the extremely dry weather the caterpillars have attacked beans, cantaloupes, watermelons, peas, cabbage, peppers, and all flowers in Harris, Galveston, and Brazoria Counties.

POTATO AND TOMATO

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

- Connecticut. N. Turner (June 14): Damage is heavier than usual in the Connecticut Valley on potatoes.
- New Hampshire. J. G. Comklin (June 23): The potato flea beetle is very abundant in the vicinity of Durham. Injury to tomato plants is especially severe.
- Virginia. H. G. Walker (June 28): The second generation of the potato flea beetles have emerged and are causing serious injury to potatoes in the northern part of Accomack County.
- Minnesota. A. G. Ruggles (June 26): Flea beetles are abundant on potatoes in Benton County and abundant on tomatoes around Minneapolis and St. Paul.

North Dakota. J. A. Munro (June 15): Potato flea beetles are abundant on potato and tomato plants at Fargo.

South Dakota. H. C. Severin (June): Potato flea beetles are doing much damage over the State.

Iowa. H. E. Jaques (June): Potato flea beetles are very destructive in several parts of the State.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Virginia. C. R. Willey (June 26): The potato leafhopper is very abundant at Toano, Suffolk, Pungo, and Fentress.

H. G. Walker (June 28): The potato leafhopper has been very abundant on potatoes and has been very injurious in Norfolk and Princess Anne Counties and on the Eastern Shore of Virginia.

Ohio. E. W. Mendenhall (June 17): Potato leafhoppers are very abundant on potatoes.

Iowa. C. J. Drake (June 19): The potato leafhopper is extremely abundant and very widely distributed in the State. Commercial growers have started to spray.

TOMATO PSYLLID (Paratrioza cockerelli Sulc)

Utah. G. F. Knowlton (June 24): Potato psyllids are abundant and psyllid yellows rather damaging in some potato fields at Bountiful.

POTATO TUBER WORM (Gnorimoschema operculella Zell.)

Virginia. C. R. Willey (June 26): Potato tuber moth is scarce in potato fields at Toano, Pungo, Fentress. None found at Suffolk. Infestations found only near packing sheds and outbuildings where potatoes were stored late last fall.

TOMATO PIN WORM (Gnorimoschema lycopersicella Busck)

Virginia. F. J. Poos (April 30): G. lycopersicella was collected on potato and tomato in a greenhouse at Norfolk; not abundant. This is the first authentic record of its occurrence in Virginia. (Identified by A. Busck)

SUCKFLY (Dicyphus minimus Uhl.)

Texas. F. L. Thomas (June 21): D. minimus was more abundant than ever recorded in the area around Weslaco, injuring tomatoes, May 10. Also abundant at Crystal City and Mathis.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

New Hampshire. J. G. Conklin (June 23): The Mexican bean beetle is moderately abundant. Eggs were found in Hollis June 9 and in Durham June 20.

- Vermont. H. L. Bailey (June 26): The Mexican bean beetle is very abundant in Bennington County.
- Massachusetts. A. I. Bourne (June 24): The Mexican bean beetle has now spread over practically the entire State. The first eggs of the spring brood were noted on or about June 9.
- Connecticut. N. Turner (June 14): The bean beetle is earlier and apparently is causing more damage than last year. Based on egg-mass counts, the beetles are more abundant than last year. We expect very serious injury.
- Rhode Island. A. E. Stene (June 16): The Mexican bean beetle is very abundant.
- New York. R. D. Glasgow (June 22): The Mexican bean beetle is reported abundant from Long Island, from Westchester County, and from other points in southeastern New York.
N. Y. State Coll. of Agr. News Letter (June): Adults were observed during the last week in May on Long Island and the extreme southern part of the Hudson River Valley. During the second and third weeks in June egg laying was heavy on Long Island and had started in central New York. (Abstract J.A.H.)
- New Jersey. T. J. Headlee and R. C. Burdette (June 23): The Mexican bean beetle is very abundant.
- Delaware. L. A. Stearns (June 23): The Mexican bean beetle has been very abundant over the State since May 29.
- Maryland. E. N. Cory (June 22): The Mexican bean beetle is very abundant. There was a spotty 24.4 per cent survival in cages.
- West Virginia. L. M. Peairs (June): The Mexican bean beetle is normally abundant in general.
- Virginia. H. G. Walker (June 23): The Mexican bean beetle is moderately abundant in most of the bean fields in the Norfolk area but they are very abundant on the Eastern Shore of Virginia. Larvae have practically destroyed a large percentage of the snap bean plants on the Eastern Shore.
- Georgia. C. H. Alden (June 17): The Mexican bean beetle is very abundant at Cornelia, where it is causing severe injury to snap and lima beans.
- Ohio. E. W. Mendenhall (June 2): The Mexican bean beetles have put in their appearance in Columbus and Springfield, and many inquiries about their control have been received.
- Indiana. J. J. Davis (June 20): The Mexican bean beetle is very abundant in southern Indiana. It has been the subject of many inquiries from many sections of the State, especially the southern half. There is every indication that this insect will be a serious pest throughout the State.
- Illinois. W. P. Flint (June 19): The Mexican bean beetle is now causing a great deal of injury in the eastern part of Illinois.

Mississippi. C. Lyle (June 22): The Mexican bean beetle has continued to attract considerable attention in the vicinity of Hattiesburg in Forrest County during the past month. We have received several batches of specimens accompanied by complaints of heavy damage to garden beans.

Alabama. J. M. Robinson (June 21): The Mexican bean beetle has been very active in central and northern Alabama, and we have, for the first time, a report of its presence in Baldwin and Covington Counties, in the extreme southern part of the State. Andalusia and Bay Minette are new southern records.

Tennessee. G. M. Bentley (June): The Mexican bean beetle is moderately abundant in eastern Tennessee.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Tennessee. G. M. Bentley (June): The bean leaf beetle was very abundant in eastern Tennessee on beans, during the last of May and the first part of June,

PEAS

PEA APHID (Illinoia pisi Kalt.)

New Jersey. T. J. Headlee and R. C. Burdette (May 27): Pea aphids are very numerous in all sections, particularly in the southern half of the State. A heavy storm reduced the numbers greatly.

Kentucky. W. A. Price (June 24): Aphids are very abundant on clovers and alfalfa in the bluegrass area.

Michigan. R. H. Pettit (June 12): The pea aphid has appeared on canning peas. It quit clover, or began to quit clover and alfalfa, about May 30; which is the normal time in Michigan for this switching to take place. It is multiplying on the peas quite rapidly. The cannery at Lake Odessa has already about a million ladybirds, secured from California, and plans to introduce several more million, in an attempt to restrict the workings of this insect.

Mississippi. C. Lyle (June 22): A medium infestation on sweet peas was reported from Durant in Holmes County on May 27.

Utah. G. F. Knowlton (June 21): Pea aphids are moderately abundant upon alfalfa at Monticello, Blanding, Bluff, and Green River. Reported as moderately damaging field peas and alfalfa at Hooper June 6.

California. A. E. Michelbacher (June 19): In an alfalfa field near Niles the pea aphid could be collected in fairly large numbers, but about a week before the field was cut the second time the population started to fall off rapidly.

CABBAGE

CABBAGE APHID (Brevicoryne brassicae L.)

Utah. G. F. Knowlton (June 21): The cabbage aphid is abundant upon cabbage at Blanding.

Nebraska. M. H. Swenk (May 20 - June 20): A Morrill County correspondent reported the cabbage aphid working on cauliflower the latter part of May. This pest was reported also from Dawson County, attacking garden truck.

Texas. E. T. Leake (May): Cabbage aphids are very abundant in Dallas County.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Connecticut. W. E. Britton (June 23): The cabbage maggot is reported as being very abundant and destructive in Storrs, East Hartford, Wethersfield, North Haven, Milford, Orange, East Haven, Cheshire, Woodbury, and Windsor. It is attacking cabbage and cauliflower throughout the State.

New York. N. Y. State Coll. of Agr. News Letter (June): The infestation was very serious early in the month on Long Island. Untreated fields lost from 50 to 60 per cent of the stand. It was also more destructive than it has been for several years in Onondaga County. (Abstract, J.A.H.)

Pennsylvania. C. A. Thomas (May 29): Cabbage maggots have been less common than usual in the southeastern counties, and few cabbage fields were badly injured.

LIMA BEAN VINE BORER (Monophtila pergratialis Hulst)

Maryland. E. N. Cory (June 22): It is attacking lima beans in Wicomico and Somerset Counties and Ford Hook.

RED TURNIP BEETLE (Entomoscelis adonidis Pal.)

Minnesota. A. G. Ruggles (June 26): E. adonidis is doing considerable damage to cabbage and cauliflower at Meadowlands, St. Louis County.

MELONS

PICKLE WORM (Diaphania nitidalis Stoll)

Alabama. O. T. Deen (May 16): The pickle worm was causing unusually severe damage to early cucumbers in southern Baldwin County on the above date. Fully 50 per cent of the cucumbers harvested on many farms for early shipping were rejected because of injury. An unusual thing about damage is that the injury was more severe in the early part of the shipping season than later. Ordinarily, the injury appears later in the season and has a tendency to increase rather than decrease.

Mississippi. C. Lyle (June 22): Injury to cantaloupes was reported from Lake, Scott County, on June 17, while a correspondent at Tupelo, Lee County, reported injury to squash on June 19.

MELON WORM (Diaphania hyalinata L.)

Alabama. J. M. Robinson (June 21): Melon worms are very abundant on cantaloupes at Prattville and Florence.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

New York. N. Y. State Coll. of Agr. News Letter (June 12): The striped cucumber beetle is raising havoc with melons and squash in Onondaga County.

Minnesota. A. G. Ruggles (June 26): The striped cucumber beetle is very abundant.

North Dakota. J. A. Munro (June 15): Striped cucumber beetles are very abundant at Fargo.

Iowa. C. J. Drake (June 11): The striped cucumber beetle is abundant at Ames.
C. N. Ainslie (June 12): It is exceedingly numerous in gardens and is destructive to young cucumber, squash, and similar plants, causing much loss to vegetable growers. Attacking cucurbits at Sioux City.

Nebraska. M. H. Swenk (May 20 - June 20): Very many reports have been received during the period here covered of cucurbit plants being attacked, especially from Cedar, Knox, Dodge, Logan, and Lancaster Counties.

Kansas. H. R. Bryson (June 22): A large number of calls and reports were received regarding the striped cucumber beetles, June 5 to 20. Dry weather conditions have made the injury to squashes and cucumbers more pronounced. Reports of injury have been received from Whiting, Marienthal, Vining, and Milford.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Nebraska. M. H. Swenk (May 20 - June 20): Inquiries concerning control were received from Dixon and Logan Counties during the third week in June.

Kansas. H. R. Bryson (June 22): Squash bugs are becoming more injurious and indications are that considerable injury will result if the dry weather continues.

Oklahoma. C. F. Stiles (June 13): The squash bug is present in practically all squash and pumpkin patches and in many instances completely destroying the vines.

Alabama. J. M. Robinson (June 21): Squash bugs are very abundant on squash at Newton.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

Connecticut. N. Turner (June 14): The onion thrips is causing the usual amount of damage to set onions in the Connecticut River Valley.

New York. N. Y. State Coll. of Agr. News Letter (June 19): Thrips are beginning to appear on onions in Suffolk County.

Georgia. O. I. Snapp (June 19): This thrips is more abundant than usual at Fort Valley and has done considerable damage to vegetables, especially snap beans. The weather has been very hot and dry -- favorable for thrips.

YELLOW WOOLLY BEAR (Diacrisia virginica Fab.)

Tennessee. G. M. Bentley (June): Larvae were reported as feeding on leaves of onions in Grundy County, June 3.

EGGPLANT

EGGPLANT LACEBUG (Gargaphia solani Heid.)

New Jersey. T. J. Headlee and R. C. Burdette (June 23): The eggplant lacebug is abundant.

Maryland. E. N. Cory (June 22): Eggplant lacebugs are attacking eggplant at Hagerstown.

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Iowa. H. E. Jaques (June): Eggplant flea beetles are very destructive in several parts of the State.

SWEETPOTATO

TORTOISE BEETLES (Cassidinae)

New Jersey. T. J. Headlee and R. C. Burdette (June 23): The sweetpotato gold bugs (all species) are very abundant.

Alabama. J. M. Robinson (June 21): Tortoise beetles are very abundant at Braggs on sweetpotatoes.

Mississippi. C. Lyle (June 22): Tortoise beetles, Chelymorphism cassidea Fab., were reported moderately abundant on sweetpotato plants at Orange Grove in Jackson County on May 29, and at Brookhaven in Lincoln County on June 3.

(June 22): A correspondent at Philadelphia, Neshoba County, reported a heavy infestation of tortoise beetles belonging to the species Metritona bivittata Say in a sweetpotato field on June 21.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylus comptana Froel.)

Michigan. R. Hutson (June 17): Present in unusual numbers on strawberries at Lansing and in the surrounding country. Several severe infestations upon new raspberry plantings have been noted in the same locality.

Nebraska. M. H. Swenk (May 20 - June 20): Reports were received from Thayer and Buffalo Counties stating that strawberries were being attacked.

Kansas. H. R. Bryson (June 22): The strawberry leaf roller is more abundant in the State than it was last year. The reports have been received from Topoka and White City during the past month. This insect caused serious injury at Troy, Blair, and Wathena in Doniphan County.

ROOT WEEVILS (Brachyrhinus spp.)

Utah. G. F. Knowlton (June 1): The weevils B. ovatus L. and B. rugosostriatus Goeze are seriously damaging 3 and 4 year old strawberry beds at North Farmington.

BEETS

SPINACH LEAF MINER (Pegomyia hyoscyami Panz.)

Utah. G. F. Knowlton (June 15): Sugar beet leaves are showing damage by the beet leaf miner in many parts of northern Utah. Damage was quite severe in one field at West Weber.

HOP FLEA BEETLE (Psylliodes punctulata Melsh.)

Utah. G. F. Knowlton (June 15): Hop flea beetles have been causing some damage to sugar beets in several parts of Cache County, being especially damaging in a few fields at College Ward.

TOBACCO

TOBACCO BUDWORM (Heliothis virescens Fab.)

North Carolina. C. H. Brannon (May 28): Budworm damage of tobacco is very serious all over the State.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida. F. S. Chamberlin (June 15): Owing to the extended dry period in this region, the tobacco thrips has been increasing greatly in numbers. Damage on the lower leaves is quite general. Reported in Gadsden County attacking shade tobacco.

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

CANKER WORMS (Geometridae)

Vermont. H. L. Bailey (June 26): Cankerworms, Alsophila pometaria Harr., are very abundant in many maplesugar orchards in Franklin, Orleans, and Lamoille Counties. Defoliation ran as high as 75 per cent. Beech trees also were severely attacked. Cankerworms had practically finished feeding and many had spun cocoons in litter June 3.

Connecticut. W. E. Britton (June 23): Severe injury by A. pometaria has occurred locally, particularly in the southwestern portion of the State.

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Rhode Island. A. E. Stene (June 16): Cankerworms have been unusually abundant throughout the State.

New York. E. P. Felt (June 23): The fall canker worm has occurred in unprecedented numbers in southwestern New England and southeastern New York, literally square miles of woodland as well as marginal growth being largely defoliated by these insects.

Indiana. J. J. Davis (June 20): The fall canker worm was destructive to box-elder, maple, apple, and plum at Shipshewana, May 29.

Wisconsin. C. L. Fluke (June 19): A. pometaria is completely defoliating apples and severely injuring elms in Winnebago and Fond du Lac Counties. Larvae completed growth June 10.

Minnesota. A. G. Ruggles (June 26): The fall canker worm is very abundant around St. Paul, Minneapolis, and Lake Minnetonka. The spring canker worm, Paleacrita vernata Peck, is very abundant all over this year.

North Dakota. F. D. Butcher (June 12): Spring canker worms are defoliating elms in Grand Forks, Traill, and Cass Counties along the Red River and its tributaries. From observations last year, I would expect the infestation to extend into Walsh and Pembina Counties.

Nebraska. M. H. Swenk (May 20 - June 20): Reports of elm trees being infested with the spring canker worm were received during the period here covered. Trees in a grove not far from Grand Island, Hall County, were being attacked and destroyed. Another report from Hall County stated that these worms were defoliating the elm trees along Wood River. A report from Boyd County stated that the spring canker worms were numerous and were attacking the shade trees in that vicinity. These worms were also reported damaging elms in Wheeler and Greeley Counties.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Maine. H. B. Peirson (June 12): The outbreak continues severe on poplar and mixed growth; 6 square miles in Lincoln is defoliated.

Pennsylvania. J. N. Knull (June 2): The forest tent caterpillar is abundant on the Allegheny Plateau this spring.

Virginia. B. A. St. George (May): The forest tent caterpillar is present in outbreak numbers in the north-central part of the State from Culpeper County to the northern part of Albemarle County. On the western side of the Blue Ridge Mountains in Augusta County heavy defoliation was observed.

W. O. Byrne (June 10): The area heavily infested the last few years, extending from Campbell to southern Albemarle Counties, is very lightly infested this year.

Minnesota. A. G. Ruggles (June 25): M. disstria is very abundant on poplar.

Louisiana. W. E. Hinds (May 29): Forest tent caterpillars are common in 9 parishes of eastern Louisiana, but probably less common than in 1932.

Colorado. G. M. List (June 26): The forest tent caterpillar has been quite serious in a number of towns in the northeastern part of the State, being especially bad in Larimer and Weld Counties. The major part of the injury is passed, with the larvae beginning to spin their cocoons.

Utah. G. F. Knowlton (June 15): Forest tent caterpillars are damaging choke-cherry bushes in Parley's Canyon.

GYPSY MOTH (Porthetria dispar L.)

Rhode Island. A. E. Stene (June 16): Gypsy moth caterpillars will probably be more abundant over a large part of the State than at any time since it first came here.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Virginia. L. M. Peairs (May 26): Bagworms are hatching freely.

Indiana. J. J. Davis (June 20): Defoliated Lombardy poplar was observed at Terre Haute June 10.

Tennessee. G. M. Bentley (June): Larvae feeding on ornamentals are moderately abundant in the eastern and central parts of the State.

Kansas. H. R. Bryson (June 22): One report of the bagworm infesting cedars at Bazaar.

Mississippi. C. Lyle (June 22): The bagworm has attracted considerable attention on arborvitae recently. Specimens accompanied by reports of heavy infestations have been received from Philadelphia in Neshoba County, Columbia in Marion County, Hattiesburg in Forrest County, and Laurel in Jones County.

LIME TREE LOOPER (Erannis tiliaria Harr.)

Pennsylvania. J. N. Knull (June 3): The larvae of the "lime tree moth" are abundant on various species of forest trees in the Allegheny Plateau section this spring. Considerable foliage injury was observed.

North Dakota. J. A. Munro (June 15): Canker worms are moderately abundant throughout the Red River Valley and other wooded areas of the State. The lime tree spanworm and the spring canker worm (Paleacrita vernata Peck) are the predominating species.

A SCALE (Xylococcus betulae Perg.)

Maine. H. B. Peirson (June): On May 23 this scale was commonly found on beech, white birch, and yellow birch at Flagstaff, Stratton, Bar Harbor, and Kossuth.

A WEEVIL (Pseudocneorrhinus setosus Roelofs)

Connecticut. W. E. Britton (June 7): This weevil is causing more injury than we have ever seen before. Apparently it is easily controlled, or at least the plants are protected by a spray of lead arsenate.

ASH

CARPENTER WORM (Prionoxystus robiniae Peck)

North Dakota. J. A. Munro (May 20): The carpenter worm has been found in northwest poplar at Mandan. Apparently this is our first record of its presence in anything but green ash.

Nebraska. M. H. Swenk (May 20 - June 20): A report was received from Knox County on June 17 of the infestation of ash trees by the carpenter worm.

SAWFLIES (Tenthredinidae)

Nebraska. M. H. Swenk (May 20 - June 20): A rather heavy infestation of an ash grove with the larvae of Monophadnus cordiger^{pal} was reported by a Cuming County correspondent on May 31.

Indiana. J. J. Davis (June 20): An ash sawfly (species not determined) was reported defoliating ash at South Bend, May 24.

ASH MIDRIB GALL (Contarinia canadensis Felt)

New York. E. P. Felt (June 23): The ash midrib gall is reported as abundant at Center Island.

BEECH

BEECH SCALE (Cryptococcus fagi Baer)

Maine. H. B. Peirson (June): The felted beech scale was found at Kossuth May 26. This is a new locality.

BIRCH

A BIRCH SAWFLY (Fenusa pumila Klug)

Maine. H. B. Peirson (June): An extremely heavy infestation of the birch fenusa was found at Soldier's Home, Togus, June 20. There is a general outbreak over the State.

BRONZE BIRCH BORER (Agrilus anxius Gory)

Indiana. J. J. Davis (June 20): The bronze birch borer (A. anxius) was killing weeping birch trees at Fort Wayne June 8.

Ohio. E. W. Mendenhall (June 28): Bronze birch borers are very bad in the birch trees in Springfield.

BOXELDER

BOXELDER LEAF ROLLER (Cacoecia semiferana W.)

Colorado. G. M. List (June 26): The boxelder leaf roller has been very injurious to boxelders in Weld County, especially in the cities of Greeley and Brighton.

CATALPA

CATALPA SPHINX (Ceratomia catalpae Bdv.)

- Maryland. E. N. Cory (June 22): Reports of C. catalpae have been received from Baltimore, Prince Georges, Washington, and Cecil Counties.
- Illinois. W. P. Flint (June 19): The first brood has been moderately abundant.
- Kentucky. W. A. Price (June 24): The catalpa sphinx is reported from Lexington, Louisville, Nicholasville, Paris, and Georgetown.
- Mississippi. C. Lyle (June 22): On May 30 a correspondent at Gomo in Panola County reported that a catalpa tree on her property was heavily infested.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

- Connecticut. W. E. Britton (June 23): Eggs and adults are abundant on elm.
- Virginia. R. D. Stoner (June 23): Two large elms on my lawn are now completely defoliated and the beetles (adults) are eating the second foliage as fast as it appears. The larvae come down the trunk and die in enormous numbers, making a very foul stench.
- Ohio. E. W. Mendenhall (June 27): The elm leaf beetle is abundant on elm trees in Springfield.

A BARK BEETLE (Scolytus multistriatus Marsh.)

- New Jersey. E. P. Felt (June 23): The European elm bark beetle is apparently increasing in numbers and invading and killing weakened trees here and there. A report of this character came from South Orange, Conn. N. J., and there have been several cases of this kind in Stamford and vicinity in Connecticut.

ELM CASE BEARER (Coleophora limosipennella Dup.)

- Connecticut and New York. E. P. Felt (June 24): The elm case bearer is locally abundant from the Branford section near New Haven, Conn., to Poughkeepsie, N. Y.
- New York. R. D. Glasgow (June 22): The elm case bearer has been reported troublesome on Camperdown elms at several points in Albany County, West-Chester County, and on Long Island.

ELM LEAF MINER (Kaliosysphinga ulmi Sund.)

- Maine. H. B. Peirson (June): The elm leaf miner was abundant on English elm only at Portland June 20; not on adjacent American elms. (R. W. Nash.)
- New York. E. P. Felt (June 23): This insect was very abundant on red elm at Millbrook.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Mississippi. C. Lyle (June 22): Rather heavy infestations on elm were reported from Como in Panola County on May 25, from McComb in Pike County on May 26, and from Senatobia in Tate County on June 14.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Maine. H. B. Peirson (June 8): The elm bark louse is abundant at Augusta.

Pennsylvania. J. N. Knull (June 9): The European elm scale is abundant on wild slippery elms in the vicinity of Hummelstown, Dauphin County.

Indiana. J. J. Davis (June 20): The European elm scale was reported very abundant and destructive to elms at Lafayette, June 5. This pest is definitely increasing in importance.

Ohio. E. W. Mendenhall (June 2): The European elm scale is very bad on elms in Columbus.

HEMLOCK

HEMLOCK BARK BORER (Melanophila fulvoguttata Harr.)

New York. E. P. Felt (June 23): The hemlock borer was associated at Port Chester with the killing of several large hemlocks, presumably weakened by the dry weather of the past few seasons.

Pennsylvania. J. N. Knull (June 2): The spotted hemlock borer is doing considerable damage to virgin hemlocks near Sheffield. Many trees have been killed.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

New England and New York. J. V. Schaffner, jr. (May 25): This case bearer seems to vary from very common to abundant on larch wherever it grows in the Northeastern States.

Maine. H. B. Peirson (June): The larch case bearer is general over the State. Adults were swarming at Augusta June 10, and starting to emerge in Lincoln.

Connecticut. R. B. Friend (June 22): Appears to have been more abundant than usual this spring at Litchfield, Lakeville, and Cornwall.

New York. E. P. Felt (June 24): The larch case bearer is very abundant and injurious in the Berkshire and northern sections to Granville, and the Adirondacks.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

New York. E. P. Felt (June 24): Locust borers are unusually abundant in the Poughkeepsie area, and badly infested trees show a wilting and drying up of the foliage, presumably due to borer damage.

MAPLE

MAPLE LEAF STEM BORER (Priophorus acericaulis MacG.)

Connecticut. W. E. Britton (June 23): The maple leaf stem borer is seemingly more abundant than for several years at New Haven, Hartford, Middletown, and Thompsonville on sugar maple.

Massachusetts. A. I. Bourne (June 24): During the latter part of May we observed considerable evidence of the work of the maple stem borer. From personal observation and from reports which we received, it evidently was very generally abundant throughout the State.

New York. E. P. Felt (June 23): Stem-borer work has been reported from Davenport Neck, New Rochelle, and Bedford, N. Y. It appears to have been confined to individual trees or groups of trees.

MAPLE NEPTICULA (Nepticula sericopeza Zell.)

Connecticut. W. E. Britton (June 23): The maple nepticula was reported attacking Norway maple at Redding and Litchfield, infesting the leaf petioles and causing leaf blades to drop.

OAK

A GALL MIDGE (Itonida foliora Russell & Hooker)

Massachusetts. E. P. Felt (June 23): A marginal fold gall midge (I. foliora) of the oak was reported as abundant at Waltham.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

New England and New York. E. P. Felt (June 23): The European pine shoot moth is locally very abundant on pines in southwestern New England and southeastern New York, some of the smaller plantings being so badly infested that few shoots have escaped serious injury.

Connecticut. R. B. Friend (June 22): The shoot moth appears generally more abundant in western Connecticut than was the case last year.

A TIP MOTH (Euosma gloriola Heinr.)

Connecticut. E. P. Felt (June 23): The white pine tip moth (E. gloriola) occurs in small numbers at Greenwich and Stamford, though it is not abundant enough to cause serious injury.

PINE LEAF MINER (Paralechia pinifoliella Chamb.)

Massachusetts. J. V. Schaffner, jr. (May 25): I noted heavy infestations of P. pinifoliella through pitch-pine areas in Shirley.

WHITE-PINE WEEVIL (Pissodes strobi Peck)

Vermont. H. L. Bailey (June 26): The white-pine weevil is very abundant near Montpelier in Norway spruce. Some specimens were nearly full grown June 13.

A CONE BEETLE (Conophthorus coniperda Schwarz)

Connecticut. E. P. Felt (June 23): Pine cone beetles were observed attacking new growth of red pine at Greenwich and were responsible for an appreciable number of yellowing tips.

SPRUCE

A GELECHIID (Recurvaria piceaella Kearf.)

Nebraska. M. H. Swenk (May 20 - June 20): The spruce leaf miner was working on spruce trees in Washington County during the period here covered.

SPRUCE GALL APHID (Chermes abietis L.)

New York. R. D. Glasgow (June 22): The spruce cone gall has been reported abundant and troublesome at several points in northern Westchester County.

WILLOW

A LEAF BEETLE (Lina interrupta Fab.)

Michigan. R. H. Pettit (June 12): L. interrupta has appeared in East Lansing, Grosse Pointe, Grand Rapids, and Flint. It is defoliating willows on low ground.

ALDER FLEA BEETLE (Haltica bimarginata Say)

Michigan. R. H. Pettit (June 12): The alder flea beetle is reported as serious in windbreaks on willows at St. Johns. Windbreaks used to protect mint fields are completely stripped by this beetle.

A LEAFHOPPER (Oncometopia undata Fab.)

Mississippi. C. Lyle (June 22): On June 6 a correspondent at Walnut Grove, Leake County, sent to this office specimens of O. undata with the statement that they were very abundant on a weeping willow tree.

INSECTS AFFECTING GREENHOUSE
AND ORNAMENTAL PLANTS

IRIS

A CURCULIO (Mononychus vulpeculus Fab.)

New Hampshire. J. G. Conklin (June 23): A curculio was found in considerable numbers on blue flag (Iris versicolor L.) and causing slight injury to cultivated iris in Durham, June 5.

LILIES

A BULB THRIPS (Liothrips vaneeckii Priesner)

Oregon. C. A. Weigel (June 16): During May, in a planting of umbellatum and nankeen lilies near Portland, several short, stunted plants were found. In these all stages of Liothrips were found working between the leaves and in the terminal, which was still very full of young leaves. These stunted stems were about 2 inches above the ground, and this is the first known instance of this thrips working above the surface of the soil.

SUMAC

A LEAF BEETLE (Orthaltica copalina Fab.)

Virginia. M. P. Jones (June): Insects are severely damaging sumac in Lyon Village.

VIOLET

VIOLET SAWFLY (Emphytina canadensis Kby.)

Maine. H. B. Peirson (June): Severe defoliation of violets by this insect was observed June 20 at Augusta.

WATERLILY

WATERLILY APHID (Rhopalosiphum nymphaeae L.)

Mississippi. C. Lyle (June 22): A heavy infestation on waterlilies was reported from Meridian in Lauderdale County on May 24.

YEW

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Connecticut. W. E. Britton (June 23): Severe injury had been inflicted upon Taxus plants in a nursery at Hampden; 30 to 40 adults emerged in two or three days from material sent in.

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)

West Virginia. L. M. Peairs (May 26): Mosquitoes are unusually abundant at Morgantown, probably because of excessive rainfall.

Indiana. J. J. Davis (June 20): Mosquitoes were reported as a veritable plague at Terre Haute, May 29.

Missouri. L. Haseman (June 24): Mosquitoes were annoying during the last half of June at Columbia.

Utah. G. F. Knowlton (June 1): Mosquitoes are extremely abundant and annoying to workers at Promontory, Flux, Dolomite, and Timpie.

Washington and Oregon. H. H. Stage (June 26): During early June Aedes aboriginis Dyar and A. fitchii Felt & Young were abundant along the coast of Washington. In mid June A. aldrichi Dyar & Knab larvae were in great numbers along the Columbia River; adults appeared June 16. Adults of A. hexodontus Dyar were observed late in the month near Mt. Hood, Oregon.

SAND FLIES (Culicoides spp.)

Missouri. L. Haseman (June 24): "Punkies" have been unusually annoying in the central and eastern part of the State during the month.

BLOOD-SUCKING CONENOSE (Triatoma sanguisuga Lec.)

Tennessee. G. M. Bentley (June): A bug, T. sanguisuga, was fairly numerous about lights in houses from June 1 to June 10 in eastern Tennessee.

Texas. E. W. Leake (May): Triatoma was reported as causing a very heavy infestation in one residence and attacking dogs in Dallas County.

CLOVER MITE (Bryobia praetiosa Koch)

New York. R. D. Glasgow (June 22): The clover mite was reported as unusually troublesome about dwellings during the fall of 1932, and again during May and early June of the present season, from several points in Albany County and in other parts of eastern New York.

CATTLE

HORN FLY (Haematobia irritans L.)

Tennessee. G. M. Bentley (June): Since June 1 this fly has been very abundant in eastern Tennessee about dairy barns and lots.

Missouri. L. Haseman (June 24): Horn flies are very abundant and annoying in the central part of the State.

HORSE

HORSE BOTFLIES (Gastrophilus spp.)

North Dakota. F. D. Butcher (June 20): On a trip from Fargo to Dickinson to Williston to Mohall, I saw G. nasalis L. very general and very active. The first evidence of its activity was on June 10 west of Grand Forks. I found an egg of G. haemorrhoidalis L. at Mohall on June 19. Judging from the behavior of horses, these flies are less abundant than nasalis.

Texas. E. W. Leake (May): G. nasalis is very abundant about horses in Parker County.

... BLACK HORSE FLY (Tabanus atratus Fab.)

South Dakota. H. C. Severin (June): T. atratus is more abundant than usual.

POULTRY

A BLACK FLY (Simulium occidentale Towns.)

Iowa. C. J. Drake (June 1): Black flies are very abundant in Plymouth County, especially in the vicinity of Akron, where many farmers lost chickens from attacks by black flies. Some farmers report as high as 100 small chicks dead from bites of black flies. Many old chickens also are killed. Heavy emergence during last two weeks of May. Flies breeding in Big Sioux River and small stream.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

United States. T. E. Snyder (June): During June 345 cases of termite damage were reported to the Bureau of Entomology. The following list gives the number of cases from each section: New England, 7; Middle Atlantic, 132; South Atlantic, 65; East Central, 55; West Central, 26; North Central, 9; Lower Mississippi, 44; Pacific Coast, 7.

ANTS (Formicidae)

Indiana. J. J. Davis (June 20): Ants of various kinds were reported from all sections of the State. In many cases they were infesting lawns, in some cases they were reported as attacking the wood beneath the weather boarding, and in some cases, they were infesting trees.

Tennessee. G. M. Bentley (June): Cremastogaster lineolata Say and Monomorium pharaonis L. are moderately abundant in houses in eastern Tennessee.

Nebraska. M. H. Swenk (May 20 - June 20): Reports of ants working in lawns and in houses have been received during the period here covered.

CARPENTER BEE (Xylocopa virginica Drury)

Ohio. J. S. Houser (May 25): Large carpenter bees are causing considerable consternation in the mind of a householder by boring holes in the exterior of a dwelling in the exposed wooden beams.

Kansas. H. R. Bryson (June 22): Two reports have been received from Tecumseh and Independence of these insects boring in garage timbers.

. A LONG-HORN BEETLE (Eburia quadrigeminata Say).

Indiana. J. J. Davis (June 20): Two adult specimens were received from Shelbyville, May 24, with the report that they were found in the floor of a dwelling.

ing and that they had practically destroyed a large section of cypress flooring.

WEBBING CLOTHES MOTH (Tineola bisselliella Hum.)

Louisiana. W. E. Hinds (May 29): The moths occur in an outbreak of unusual abundance in a public building at Baton Rouge in which a large amount of hair felting was used. The building was completed one year ago, and it is apparent that the material was infested at the factory or warehouse before the felting was installed.

INSECT CONDITIONS IN PUERTO RICO
DURING SPRING OF 1933
Insular Experiment Station
and
San Juan Plant Quarantine Office

COCCIDAE

The citrus mealybug, Pseudococcus citri Risso, was exceptionally abundant during the first half of June in citrus groves in the Bayamon district despite reasonably rainy weather. (G. N. Wolcott.)

Some months ago Pseudococcus nipae Mask. was noted so abundant on one avocado tree in Rio Piedras, covering all the twigs and much of the larger branches, as to cause its complete defoliation; but the insects shortly afterward disappeared and the tree now appears normal. At about the same time the mealybug was very abundant on guava bushes and still continues to be rather common. I am of the opinion that this may be one of the delayed results of the hurricane, destroying the introduced ladybeetle Cryptolaemus montrouzieri Muls., none of which has been seen since. (G.N.W.)

The cottony cushion scale, Icerya purchasi Mask., has spread a few miles farther to the southwest, being reported in the Bayamon district on the Comerio Road, and in the Espinosa district, between Dorado and Vega Alta. The ladybeetles have practically cleaned up most large infestations in San Juan, Santurce the Bayamon district, and Dorado, and have been found in the new infestations of the scale, having reached these by their own efforts. About 2,500 beetles were distributed this spring and have done good work except in small infestations and in exceptionally wind-swept locations. (G.N.W.)

ALEYRODIDAE

The woolly white fly of citrus, Aleurothrixus howardi Quaint., is ordinarily so scarce in Puerto Rico that infested leaves are curiosities, and never have I found more than one at a time. In a citrus grove between Bayamon and Toa Baja, observed rather carefully recently, a dozen or more infested leaves per tree were noted on several trees. The owner reports having had his majordomos from this and other nearby groves bring him other similar leaves, indicating a rather unusual abundance of this insect. As it is usually kept so completely in control by parasites, its unusual abundance at present may be a belated effect of the hurricane of San Ciprian only now becoming apparent. (G.N.W.)



Mr. W. F. Jepson reports about one per cent of parasitization of beetles of Phyllophaga portoricensis Smyth by Cryptomeigenia aurifacies Walton at Cidra during the past few weeks. (G.N.W.)

A small number of adult Loberus testaceus Reitt. were found on the leaves of Inga laurina at Juana Diaz while the writer was examining 13 trees. (R. G. Oakley.)

An adult Cryptocephalus tristiculus Weise was caught on a mango blossom at Mayaguez March 14. (Det. H. S. Barber.) (A. G. Harley.)

A small number of adults of Apodrusus wolcotti Marshall were found on the flowers on two trees of Inga laurina at Adjuntas on March 20. (Det. L. L. Buchanan.) (R.G.O.)

A moderate infestation of Diachus nothus Weise was found on the flowers of Inga laurina at Adjuntas March 23. (Det. H. S. Barber.) (R.G.O.)

A small number of adults of Nodonota wolcotti Bryant were found on cotton flowers at Ponce April 4. (Det. H. S. Barber.) (Richard Faxon.)

One beetle, Lepturges guadeloupensis Fleut. & Salle found boring in twig of Hibiscus at Mayaguez on April 11. (Det. W. S. Fisher.) (A.G.H.)

A small number of adults of Telephanus pallidulus Chevr. were on the leaves of five trees of Inga laurina at Adjuntas April 12. (Det. W. S. Fisher.) (R.G.O.)

Adults of Psorolyma maxillosa Sic. were found on coffee leaves in large numbers. A few adults were taken from mangosteen leaves and coffee at Mayaguez April 13. (Det. E. A. Chapin.) (A.G.H.)

A small number of adults were caught on coffee leaves at Adjuntas on April 21. (Det. E. A. Chapin.) (C. G. Anderson.)

LEPIDOPTERA

An adult Ochyrotica fasciata Wlsm. was found on a guava leaf at Barceloneta April 25. (Det. A. Busck.) (C.G.A.)

An adult Precis coenia zonalis Feld. was caught in a net in a tomato field at Loiza March 28. (Det. W. Schaus.) (C.G.A.)

An adult Pyroderces rileyi Wlsm. was reared from a pupa found in a cotton boll, at Ponce. Only one was found while the writer was examining several bolls April 5. (Det. A. Busck.) (R.F.)

DIPTERA

An adult Argyrophylax albincisa Wied. was caught while resting on a squash leaf at Rio Piedras January 27. (Det. J. M. Aldrich.) (A.S.M.)

ORTHOPTERA

A small number of nymphs of Doru lineare Esch. were found on the flowers on one tree of Inga laurina at Adjuntas March 20. (Det. A. N. Caudell.) (R.G.O.)