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## THE MORE IMPORTANT RECORDS FOR JUNE

The grasshopper situation has developed to serious proportions in Colorado, Montana, Nebraska, Kansas, Iowa, Wyoming, the Dakotas, Missouri, Oklahoma, Texas, Arkansas, Illinois, with less general outbreaks in New Mexico, Arizona, California, Minnesota, Wisconsin, Utah, and Michigan.

Along the Atlantic seaboard, from Maine to Georgia, localized wireworm injury to potatoes, tobacco, and garden vegetables has been reported. On some farms in the shade-grown tobacco section of Connecticut, loss of newly set plants ran as high as 50 percent. Unusually severe damage to tobacco was also reported from North Carolina. Limited serious infestations by wireworms were reported from the East Central States and from Kansas, Idaho, and Oregon.

White grubs were very numerous and destructive in the East Central States, from Ohio and Michigan to Kansas.

Rose chafer damaged a wide variety of crops, occurring in outbreak proportions in New England and the Middle Atlantic States, westward to Michigan.

In North Dakota the pale western cutworm has developed to such proportions in the western part of the State that as high as 75 percent of the seeded crops have been destroyed.

Localized outbreaks of the beet webworm are reported from North Dakota and Utah, with an outbreak of the garden webworm in the eastern half of Kansas.

The chinch bug, in general, is not seriously abundant.

Localized and serious outbreaks of armyworms occurred in Delaware, Maryland, and Virginia, during the early part of the month.

Two counties in North Carolina--Edgecombe and Halifax--have been added to the territory known to be infested by the vetch bruchid.

Peak flights of the codling moth occurred during the last week in May and the first week in June in the Hudson River Valley, N. Y., the infestation in this area being much heavier than last year. Moths of the first generation began emerging in Georgia during the second week in June. The spring-brood flight in Yakima Valley, Wash., reached its peak during the last week in May, which is about 10 days later than in 1936.

The eastern tent caterpillar continued to be a serious pest in the New England and Middle Atlantic States.



Emergence of first-brood plum curculio from the ground was late this year. Practically all of the earliest varieties of peaches have been harvested in the peach-growing sections of Georgia and were remarkably free from damage. This insect is reported as being more abundant than usual in Mississippi and Texas.

Blister beetle injury was reported from the South Atlantic States and westward around the Gulf to Oklahoma and Kansas.

Flea beetle damage to potatoes and garden vegetables was somewhat severe over the New England States and New York and westward to North Dakota.

The seed-corn maggot has seriously damaged shade-grown tobacco in the Connecticut River Valley, and a variety of field and garden crops from New York, through Michigan and Indiana, to North Dakota. Damage was also reported from Colorado.

An outbreak of the green stinkbug occurred about the middle of the month in Alabama and Mississippi, the insects seriously damaging cotton, peas, beans, and miscellaneous truck crops. In Mississippi, the outbreak is said to be the most severe ever recorded.

Injury by the vegetable weevil necessitated 90-percent replanting in tomato fields in San Bernardino County, Calif.

The Mexican bean beetle is more abundant than it has been during the last 2 years in the New England States. The insect is generally prevalent throughout the Middle Atlantic States and the lower Mississippi Valley.

Heavy infestations of the pea aphid were reported from western New York and Long Island. This pest is also sufficiently numerous in northern Utah to require control measures.

Squash bugs appear to be somewhat more troublesome than usual in New England, Middle Atlantic, and South Atlantic States. Damage was also reported from Mississippi and Kansas.

Very heavy outbreaks of the asparagus beetle were reported from Massachusetts and New York.

A heavy outbreak of tobacco flea beetles occurred in the Piedmont sections of Virginia and North Carolina, southward to Florida, and westward to Tennessee.

The cotton flea hopper is generally reported from the Cotton Belt. In parts of Texas this insect is attracting more attention than the boll weevil.

The cotton leaf worm appeared about 2 weeks later than last year in southern Texas. The first worms were found in Nueces County on May 27, in Calhoun County on June 9, and in Jim Wells County on June 19.

Thrips injury to cotton has been reported generally from South Carolina to Texas.



The forest tent caterpillar caused considerable complete defoliation of forest trees in the New England and Middle Atlantic States, and westward to northeastern Minnesota.

Eggs of the gypsy moth started hatching in Maine and New Hampshire early in May. This insect is causing extensive and serious defoliation in many parts of Massachusetts.

The larch case bearer was severely injuring larch in New England and eastern New York.

The anobiid beetle Platybregmus canadensis Fisher was reported to be damaging flooring for the first time in the United States. It was originally described from Ontario, Canada, in 1934.

#### THE MORE IMPORTANT ENTOMOLOGICAL FEATURES IN CANADA

Hatching of the lesser migratory grasshopper was first noted in Manitoba on May 10. Hatching of the eggs of this species and of the two-striped grasshopper was generally slow and irregular. Heavy rains early in June retarded grasshopper development. No crop damage and no need for control measures had developed by mid-June, but toward the end of the month the insects were causing some alarm in southwestern Manitoba, and damage is expected if dry weather sets in. In Saskatchewan the lesser migratory grasshopper began hatching in the Estevan district on May 8. Egg mortality of this species was generally low. The first nymphs of the clear-winged grasshopper were observed on May 10, near Unity, Saskatchewan, and hatching was in full swing in northwestern districts by the end of May and was proceeding in stubble generally, although more irregularly. Fully half the eggs in all infested areas had hatched by June 1. In western Saskatchewan an egg mortality of 60 percent of this species was observed. Possibly a fungous organism was involved. By the third week of June grasshopper hatching throughout the Province was practically complete. Development was very irregular but more advanced in northern sections where adults were beginning to appear. Up to mid-June, cool weather had restricted losses, and control efforts were considered adequate where crop prospects were good. In Alberta hatching of the lesser migratory grasshopper began late in April in light sandy soil areas in the Red Deer Valley. Owing to uneven egg development, the hatching period extended over several weeks. It was about 40 percent complete in east-central Alberta by May 31. Some crop losses had occurred early in June, but these were checked by control measures, and to some extent by rains. Late in June grasshoppers were becoming more active, with hot weather, but damage was still light. In southern British Columbia, in the Midway district, the clear-winged grasshopper was hatching the last week of May and a very heavy infestation has developed. The grasshopper situation is expected to be acute in the Province this season, although the insects were late in hatching.

Reports of serious cutworm damage have been largely confined to the Provinces of Alberta and Saskatchewan. The pale western cutworm was causing injury to fall wheat and rye at Lethbridge, Alberta early in April, the earliest re-



corded from that section. Towards the end of June, damage was over for the season, with the most extensive crop losses in the Province in a decade. Heavy damage was also done locally in Saskatchewan. Another species, the army cutworm, was more abundant in southern Alberta than at any time since 1928 on vegetation of all kinds, but losses were generally light. Many of the larvae were destroyed by disease. Hatching of eggs of the redbacked cutworm, at Saskatoon, Saskatchewan, was complete by April 19, or about 12 days earlier than 1936. Cutworms caused material loss in various localities in this Province.

Wireworms have been generally destructive in western Saskatchewan, especially in areas where crop growth was retarded by drought, soil drifting, and frost. In Alberta, approximately 1 percent of the wheat acreage is reported to have been destroyed. A recent survey in Manitoba indicated very little damage by these insects. Throughout southwestern Ontario wireworms were reported to be more numerous than usual.

Major flights of June beetles occurred in southern Quebec late in May and locally in southern Ontario. Third-year white grubs of this species are common in many parts of Ontario, where severe damage was done in 1936.

Asparagus beetles were unusually abundant in southern Ontario. In Niagara district the greatest injury to the asparagus crop occurred late in May.

Much damage to young vegetable garden plants was done by the hop flea beetle in southern Alberta.

An extensive acreage of planted seed beans was destroyed by the seed corn maggot in southern Ontario.

Winter mortality of codling moth larvae appears to have been light in southern Ontario and the Okanagan Valley, British Columbia.

Aphids are scarce in apple orchards of the Annapolis Valley, Nova Scotia. The apple aphid, green peach aphid, and black cherry aphid are present in injurious numbers in the Okanagan Valley, British Columbia.

The pear thrips has been found causing damage in orchards at Courtenay, Vancouver Island, and at Kelowna, British Columbia, both new areas for this species.

The fruit tree leaf roller is increasing in many sections of the Okanagan Valley, British Columbia, necessitating the application of oil sprays early in the spring.

Spruce mites have developed in outbreak proportions throughout the Prairie Provinces.

Outbreaks of tent caterpillars occurred in many parts of Eastern Canada, and were particularly severe in sections of Ontario and Quebec.

Infestations of the fall canker worm were reported in New Brunswick, southern Ontario, and the Prairie Provinces. It is reported that the shelter belts on at least 10,000 square miles of land in central Saskatchewan are very severely infested by this species.



GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Ohio. T. H. Parks (June 24): Grasshoppers are present in no more than normal numbers. We anticipate no injury.
- Indiana. J. J. Davis (June 25): Grasshoppers are showing up in unusual abundance. Present indications are that they will be more abundant than for many years in the counties adjoining Illinois and in the northern part of the State. The young hoppers were hatching early in June.
- Illinois. W. P. Flint (June 23): Grasshoppers are still hatching in the heavy sod in the central area. The organized fight has been very effective, and this, aided by heavy rains, has greatly lessened the threat of serious injury.
- Michigan. Ray Hutson (June 18): Grasshoppers have practically all hatched.
- Iowa. C. J. Drake (June 23): Grasshopper infestation coincides very closely with the egg survey. Baiting is being carried on extensively in the western counties along the Missouri River. In the eastern half of the infested area the young hoppers are hatching in large numbers. G. C. Decker reported this morning that he had never seen such heavy infestations of young hoppers as he was now finding in Plymouth and Sioux Counties. Melanoplus mexicanus Sauss., M. differentialis Thos., M. femur-rubrum Deg., and M. bivittatus Say are the predominating species.
- Missouri. L. Haseman (June 23): Throughout southwestern Missouri the excessive rainfall of the last 3 weeks has had a decidedly deleterious effect on grasshoppers. Throughout central and northern Missouri and in scattered areas throughout southern Missouri grasshoppers continue to be threatening. In central Missouri the lesser migratory locust and a closely related species or variety are already maturing and mating, and the females at this time contain fully developed eggs.
- Arkansas. Dwight Isley (June 21): There has been an outbreak in northern Arkansas. The damage was caused largely by nymphs of M. mexicanus.
- North Dakota. F. G. Butcher (June 22): Grasshoppers are abundant, many places having populations as high as 50 to 75 per square yard; generally in the third instar. M. mexicanus is decidedly predominating. Crop injury being reported, particularly, to cereals and alfalfa.
- Kansas. H. B. Hungerford (June 5): Young grasshoppers are more abundant in places than we expected.
- H. R. Bryson (June 23): Grasshoppers are causing injury over most of the State. The population indicates that control measures must be rigidly applied to avoid serious damage. There is some evidence of parasites and disease. The first adult migratory grasshopper was taken



on May 31, and the first adult of the two-lined grasshopper (M. bivittatus) on June 16 in Riley County.

Oklahoma. F. A. Fenton (June 21): Grasshoppers have not been so destructive as they were in 1936 and the infestation is decidedly more spotted. M. mexicanus is now in the adult stage, and there are a few adults of M. bivittatus and M. differentialis. The most severe infestation will probably be in the panhandle section and caused by Dissosteira longipennis Thos., great numbers of which are reported from Cimarron County.

C. F. Stiles (June 23): During the past 10 days the weather has turned dry and the damage from hoppers is increasing. The most heavily infested counties are in the southwestern part of the State. The predominating species are M. bivittatus, M. differentialis, and M. mexicanus. The species most prevalent in the panhandle is D. longipennis. H. T. Rainwater reports them there in enormous numbers. In one instance, he reported seeing a line about 20 or 30 feet across and 3 miles long that was practically solid with hoppers.

Texas. F. L. Thomas (June 5): Grasshoppers are causing considerable concern in a number of counties.

Montana. H. B. Mills (June 24): In many areas grasshoppers are extremely abundant but rather spotted.

Colorado. S. C. McCampbell (June 28): The infestation of grasshoppers, including D. longipennis, is the heaviest in the history of the State. We are carrying on an intense control campaign against D. longipennis.

Utah. G. F. Knowlton (June 17): Grasshoppers are seriously destructive in some parts of Utah. The cold, unsettled spring appears to be retarding development although the nymphs and some adults are abundant in many northern localities.

Nevada. G. G. Schweiss (June 18): Grasshoppers have been reported as being extremely numerous in Lyon, Pershing, Washoe, and Elko Counties. Control measures have been instituted in these counties. The outbreaks are rather limited in scope. Camnula pellucida Scudd. and M. mexicanus are the species involved.

Arizona. C. D. Lebert (June 10): There was an extremely heavy infestation in alfalfa and melon fields northwest of Phoenix. M. differentialis was on the margins of the fields and fence rows and ditch banks. M. mexicanus was destructive to alfalfa; estimated population of from 300 to 400 hoppers per square yard. Nearly total defoliation of alfalfa, and three rows of melons gone. Some Trimerotropis spp. were present.

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California. S. Lockwood (June 19): C. pellucida was found/damaging numbers for the first time in the recollection of the writer in the Upper Sonoran zone in Merced County.



Tennessee. G. M. Bentley (June 1937): M. differentialis and M. femur-rubrum are occurring in large numbers in several counties. This is the worst outbreak in Tennessee for the past thirty odd years. Due to the dry weather of last year large acreages of land, which could not be turned in the fall, afforded ideal egg-laying areas.

L. B. Scott (June 21): The infestation continues to increase in western Tennessee. All crops have been damaged but tobacco and corn have been most severely injured. Many fields, particularly of tobacco, have been completely destroyed. M. femur-rubrum predominates.

Alabama. J. M. Robinson (June 19): On June 14 grasshoppers were reported to be in large enough numbers to be considered an outbreak in Limestone County, in the central part of the State on the northern border. We found that there were several species occurring in large numbers in that area. Furthermore, grasshoppers are in abundance in central and northern Alabama generally. The nymphs of the lubber grasshopper, Romalea microptera Beauv., were reported as present in Birmingham on June 7 and in Talladega on June 14.

Mississippi. C. Lyle (June 24): Grasshoppers have been destructive to cotton and soybeans in some areas of the State, especially in the Delta. M. femur-rubrum and M. mexicanus are the principal species involved.

#### MORMON CRICKET (Anabrus simplex Hald.)

Montana. H. B. Mills (June 24): Mormon crickets appeared as adults in the Yellowstone Valley about June 5. Numerous adults were seen in Chouteau County June 22. They are extremely abundant and widespread throughout central Montana.

Utah. C. J. Sorenson (June 18): Mormon crickets are very abundant in Juab, Millard and Tooele Counties.

Washington. The Fresno Bee, Associated Press, (June 21) Mormon crickets are being fought with spray guns along a 35-mile trench line near Pasco, Franklin County, in southeastern Washington. Sea gulls from the Pacific coast have flown into the region and are devouring the crickets.

#### WIREWORMS (Elateridae)

Maine. J. H. Hawkins (May 11): Agriotes mancus Say is present at the rate of 10 to 40 per square yard in fields at Knox, Waldo County, where potatoes were seriously injured during the past season. Both larvae and adults are present.

Connecticut. A. W. Morrill, Jr. (June 1): Limonius ectypus Say: In Hartford County one oat field, formerly tobacco, was a 50 per cent loss. Many tobacco fields needed resetting of small areas. One 5-acre shade tent needed entire resetting.



North Carolina. W. A. Shands (June 25): Reports have been received indicating that wireworm injury on newly set tobacco has been unusually severe in the vicinity of Rocky Mount and over most of the eastern part of North Carolina. While not common, this injury has also been found over the central part of the State.

Georgia. O. I. Snapp (June 17): Wireworms are more abundant than usual at Fort Valley, central Georgia, and have caused considerable damage to vegetables. In one case they completely destroyed seven rows of onions.

Indiana. J. J. Davis (June 25): Wireworms damaged tobacco at Rockport June 14.

Iowa. C. J. Drake (June 23): Wireworms totally destroyed a 20-acre field of corn in central Iowa. The field was in corn in 1936 and in oats in 1935. Last year corn yielded around 45 bushels per acre.

Kansas. H. R. Bryson (June 22): Injury by Melanotus spp. was more pronounced this spring owing to the unfavorable soil condition which retarded germination of early planted seed. Reports of injury to corn and wheat have been received from the eastern border of the State.

Idaho and Oregon. F. Shirck (June 15): Wireworms have caused extensive injury to sugar beets, having destroyed 30 to 60 percent of the plants in many fields in southwestern Idaho and eastern Oregon. The unseasonably cool weather has been favorable to continued feeding.

Oregon. H. P. Lanchester (June 21): A 30-acre field of peas 3 miles west of Weston was plowed under owing to injury by Limonius spp.

#### WHITE GRUBS (Phyllophaga spp.)

Connecticut. W. E. Britton (June 23): The beetles devoured the foliage of small Japanese and Chinese chestnut trees at Bristol. Some were entirely defoliated and the owner thinks they have been killed. Sixty-eight adults of P. tristis F. were received June 1, on raspberry from Orange.

Ohio. T. H. Parks (June 24): May beetles caused partial defoliation of oaks in many parts of Ohio. This injury occurred principally during the first week of June.

Michigan. R. Hutson (June 18): June beetles have been especially numerous in the vicinity of Okemos, Climax, and Kalamazoo, in south-central Michigan.

Iowa. C. J. Drake (June 23): There was a very heavy flight of June beetles in central Iowa this spring. White grubs are doing considerable damage in cornfields in eastern and southern Iowa. The State nursery, about 2 miles south of Ames, is being injured by grubs of brood B.

Kansas. H. B. Hungerford (June 5): White grub injury is strawberry patches is severe.



H. R. Bryson (June 26): Adults of white grubs, P. lanceolata Say, were numerous between June 7 and 14 on the golf courses and higher prairies in the vicinity of Manhattan. The adults were quite heavily parasitized by a sarcophagid. Reports have also been received from Harper and Kingman Counties.

ORIENTAL BEETLE (Anomala orientalis Wtrh)

North Carolina. J. F. Cooper (June 29): On June 21 and 23, specimens of this beetle were collected on rose and hollyhock at East Spencer, Rowan County in west-central North Carolina.

JAPANESE BEETLE (Popillia japonica Newm.)

New Jersey. T. L. Guyton (June 22): First adult of the season found on potato at Bound Brook.

E. Kostal (June 26): Beetles becoming numerous at Morganville, Monmouth County, which is unusual for this date. Prospects of heavy infestation.

Delaware. L. A. Stearns (June 23): The first adults were observed at Newark on June 13. They are now becoming abundant generally throughout New Castle County. Grub infestation is much greater than in 1936.

Maryland. E. N. Cory (June 22): First record for the season from Conowingo on June 17; University Park, June 22; College Park, June 21.

Washington, D. C. J. A. Hyslop (June 8): One specimen collected in a city back yard today and brought to this office.

ROSE CHAFER (Macrodactylus subspinosus F.)

Massachusetts. A. I. Bourne (June 23): Within the last 2 or 3 days it has been causing serious damage to peach foliage in Worcester County, in the central part of the State. In the Connecticut River Valley it has caused considerable injury to foliage of apple. This morning our attention was called to a severe outbreak in a raspberry planting. The beetles were riddling the foliage.

Connecticut. M. P. Zappe (June 15): Very abundant in shore towns east of New Haven and causing injury to apples in sprayed orchards at Guilford; also reported as causing severe injury to garden plants in New Haven and Woodbury, and to walnut in Bridgeport. This insect was also noted by W. E. Britton, June 17, on rose leaves and the flowers of Ibota privet at Waterbury.

Connecticut. E. P. Felt (June 22): Rose chafer was extremely abundant and very injurious to various plants and ornamental shrubs at Darien.

New York. N. Y. State Coll. Agr. News Letter (June 21): Rose chafers are occurring in Ulster, Columbia, and Dutchess Counties on grapes, peaches, and



raspberries. In western New York in Orleans and Monroe Counties a number of orchards and vineyards on sandy soil are infested.

Delaware. L. Stearns (May 30): Adults first observed in New Castle County on May 30 and 31. Moderately abundant this year.

Maryland. E. N. Cory (June 18): Present on grapes and cherries in Cumberland on June 18.

J. A. Hyslop (June 21): Seriously damaging flowers of Japanese iris and rose at Avel.

Virginia. J. A. Hyslop (June 23): Specimens were brought into this office with the report they were occurring by the thousands in Alexandria.

Michigan. E. I. McDaniel (June 22): Rose chafers have been reported from Detroit, Manistee, Benton Harbor, St. Joseph, Zeeland, and East Lansing. The first appearance occurred about the 15th of June. Since that time it has swarmed out to all parts of the State, particularly the Lake Michigan shore line.

#### A WEEVIL (Calomycterus setarius Roelofs)

Connecticut. M. P. Zappe (June 23): At Stratford, south-central part of the State, some adults are present and feeding has begun on Lespedeza and Desmodium at Sharon, in northwestern part of the State, no adults emerged.

Maryland. E. N. Cory (June 22): C. setarius was invading houses in Baltimore County.

#### A CURCULIONID (Naupactus leucoloma Boh.)

Florida. J. R. Watson (June 25): Reports from Okaloosa and Walton Counties indicate that this insect is developing into such a severe pest that several infested farms have been abandoned.

Alabama. J. M. Robinson (June 19): In late May and early June the larva of a curculionid was feeding on the underground stems of cotton and corn plants, and the tubers of Irish potatoes in Covington County. It is likely N. leucoloma. From the note on page 157 of the Insect Pest Survey Bulletin for June, we note that J. R. Watson reports the insect from Okaloosa County, which is immediately south of Covington County, Ala. We do not have any record of this insect having been reported in Alabama previously.

#### CUTWORMS (Noctuidae)

New York. R. W. Leiby (June 17): Severe damage to young strawberry fruits has been seen in Erie and Chautauqua Counties. Injury was confined largely to the early crop of berries.

Virginia. C. R. Willey (June 14): On an island in James River, west of Rich-



mond, on which 100 acres of corn was planted; a lot of damage by several species of cutworms was noted May 28. The cutworms were thought to be the black cutworm (Agrotis ypsilon Rott.), with a few spotted (Agrotis c-nigrum L.) and bronze cutworms (Nephelodes emmedonia Cram.), present.

Georgia. T. L. Bissell (June 9): Pepper plants set in a field that was grassy last year have been attacked by cutworms. About half of the field required replanting. The infestation occurred at Experiment, Ga.

Alabama. J. M. Robinson (June 19): One of the noctuid larvae was reported as doing serious damage to bean pods at Anniston on June 12.

Mississippi. C. Lyle (June 24): Specimens of the variegated cutworm (Lyco-photia margaritosa saucia Hbn.) were received at this office with the statement that they were causing serious injury to bur clover at Yazoo City on May 24.

Indiana. J. J. Davis (June 25): The yellow-striped armyworm (Prodenia ornithogalli Guen.) was abundant and destructive at Milton and Otterbein and other points in central Indiana the middle of the month.

C. M. Packard (June 22): Moths of L. margaritosa saucia were noted on cherry trees at West Lafayette. The fruit is ripening.

Illinois. W. P. Flint (June 23): The yellow-striped armyworm is very generally distributed over all of the State and is found in a wide variety of crops, including both grasses and legumes. Serious damage has been reported. The variegated cutworm is abundant in and destructive to alfalfa.

Iowa. C. J. Drake (June 23): The variegated cutworm is doing extensive damage in many alfalfa and sweetclover fields; populations running from 10 to 40 per square foot in the more heavily infested area.

C. J. Drake (June 23): The yellow-striped cutworm is abundant in almost every county throughout the southern half of the State. The county agent of Guthrie County reported that this insect had totally destroyed a 65-acre cornfield.

Missouri. L. Haseman (June 23): The variegated cutworm, combined with a smaller number of the greasy cutworm (A. ypsilon) and more recently seemingly the fall armyworm (Laphygma frugiperda S. & A.), developed along with the recent armyworm epidemic. Relatively little cutting off of the plants occurred but the cutworms feed rather like armyworms. The cool, rainy weather prolonged the feeding.

North Dakota. F. G. Butcher (June 22): Cutworms are abundant in the eastern counties and much damage to corn, other cereals, and gardens is being done.

F. G. Butcher (June 22): The pale western cutworm (Porosagrotis orthogonia Morr.) is exceedingly abundant and causing excessive crop destruction west of Burleigh and Pierce Counties. Estimates of crop



destruction range from 10 percent in Logan County to 75 percent in Stark County of seeded crop. At least 80 percent of the larvae are full grown at this date, but some injury is being reported.

Nebraska. H. H. Walkden (June 1): Approximately 25 acres of wheat in Dawes County in northwestern Nebraska has been damaged by P. orthogonia. This is the first record of injury by this species in Nebraska as far as I know.

Kansas. H. R. Bryson (June 26): The variegated cutworm is in approximated outbreak proportions in the eastern third of Kansas and some other localities. The cotton cutworm (P. ornithogalli) is occurring in Brown, Doniphan, and Leavenworth Counties in northeastern Kansas on garden truck.

Colorado. S. C. McCampbell (June 28): Last week there was a very heavy flight of moths of C. auxiliaris in the eastern part of the State, extending into the mountains to an elevation of 8,000 feet.

Utah. G. F. Knowlton (June 9): Cutworms are damaging eggplant, cucumbers, and tomatoes at Spanish Fork and garden plants at Brigham.

#### BEET WEBWORM (Loxostege sticticalis L.)

North Dakota. J. A. Munro (June 22): The moths of the sugar beet webworm are abundant at Fargo and reports accompanied by specimens indicate that they are exceedingly abundant in the vicinity of Verona, La Moure County, and Fullerton, Dickey County.

Utah. G. F. Knowlton (June 1): Sugar beet webworms have been hatching in the vicinity of Ogden. Tremendous numbers of adult moths are worrying the farmers at Panguitch and in other parts of Garfield County.

Utah and Idaho. H. E. Dorst (June 15): Larvae are becoming numerous on beets. Spraying has been undertaken in Sevier Valley and in Utah County, Utah, and in Franklin County, Idaho.

#### GARDEN WEBWORM (Loxostege similalis Guen.)

Kansas. H. R. Bryson (June 26): Noted on June 23 a definite outbreak of the garden webworm. Reports of injury have been received from several places in the State, particularly in the eastern half and in the vicinity of Manhattan. Injury has been observed in alfalfa, corn, and in gardens.

Texas. F. L. Thomas (June 22): Some fields of young cotton near Temple, Bell County, were almost completely destroyed by L. similalis. The insect has also caused injury to alfalfa in Hunt County in northern Texas.

#### A WEBWORM (Loxostege sp.)

Washington. E. W. Jones (June 21): A webworm was found destroying spring onions and carrots at Walla Walla after migrating from a young alfalfa



field where they had been feeding on alfalfa and weeds.

EUROPEAN EARWIG (Forficula auricularia L.)

Washington. E. W. Jones (June 21): The earwig is very abundant in park districts of Walla Walla. Home flower gardens were attacked by the young nymphs. They were reported as becoming a pest on sleeping porches.

CEREAL AND FORAGE-CROP INSECTS

WHEAT AND OTHER SMALL GRAINS

HESSIAN FLY (Phytophaga destructor Say)

Missouri and Kansas. E. T. Jones (May 1937): Limited surveys of fall-brood hessian flies in southwestern Missouri and central, eastern, and southern Kansas indicated only light, widely scattered infestations. Observations indicate very light infestations of first spring-brood flies over this area.

ARMYWORM (Cirphis unipuncta Haw.)

Delaware. L. A. Stearns (June 8): Serious infestation on crops was noted on wheat and corn at Taylor's Bridge, New Castle County.

Maryland. E. N. Cory (June 4): Two small outbreaks in Worcester County.

Virginia. D. W. Jones (June 3): The highest infestation is in Northampton County between Eastville and Cheriton. Pupation is well under way and most of the remaining larvae are at least  $1\frac{1}{4}$  inches long. The cement road near the worst infested field is almost greasy from the caterpillars that have been crushed by automobiles. One field showed an average of nearly 200 worms per square foot. A pea field across the road, and separated from it by two deep ditches showed an average of 10 worms per running foot of row for 30 feet and was practically clean in the remainder of the field (there was chickweed in the row with the pea vines). An infestation nearly as bad was about 3 miles west in about 100 acres of wheat and vetch. Stacks of cut straw about 6 feet in diameter showed many worms in both Eastville and Cheriton. Some were up in the straw but most of them were on the ground and in moist trash, especially about a foot from the outer edge of the stack. In shaking the straw and making square-foot counts in 20 places, the average was 182 per square foot and seemed to run quite uniformly. Some pupae were noted in this situation and some cocoons of a braconid parasite. The farm roads and ditches showed frass and dead worms  $\frac{1}{4}$  inch deep in many places.

Virginia. A. M. Woodside (June 23): A heavy infestation was reported near Timberville, in Rockingham County, on June 4. Barley was damaged heavily by the larvae which cut off many of the heads. Wheat was also damaged to some extent.



Ohio. T. H. Parks (June 24): We are now in the midst of an armyworm outbreak. Injury first occurred in Butler County, southwestern Ohio, the second week in June. It has continued uninterrupted but is now on the wane. Some fields of fall barley have been almost entirely destroyed. A few fields of rye have been seriously damaged and the new seeding of timothy in wheat fields has been destroyed over a wide area. Wheat was not seriously damaged. Corn was damaged very little. The larvae are now entering the ground and pupating. No moth emergence has occurred here. Heavy moth flights from the South have been in progress the last two nights. Last night I was called to see a cherry tree where the ripening fruits had been punctured by the moths which fed upon the fruits and destroyed them in two nights. The moths were observed carrying out their destruction of cherries.

Indiana. J. J. Davis (June 25): The armyworm has been the outstanding problem of the month. The abundance of moths, followed by weather favoring the rank growth of grasses and cool weather checking the activity of parasites, was abundant evidence for anticipating the outbreak. First reports came from Boonville, in the extreme southern end of the State, on May 29. Thereafter reports were received of outbreaks and damage to timothy, barley, rye, wheat, and corn from almost every county in the southern half of the State and as far north as Rennselaer and Delphi. In the extreme northern end of the State, in St. Joseph County, came reports of outbreaks on June 21. Throughout the southern half of the State parasites are now abundant and we expect will check any succeeding broods, although at Lafayette the moths have been exceedingly abundant the past three nights.

Indiana. C. M. Packard (June 22): Moths were abundant last evening around spirea bushes and ripening cherries at West Lafayette. One moth was noted feeding on coreopsis blossom.

Illinois. W. P. Flint (June 23): A general outbreak occurred over the southern three-fourths of the State, some damage occurring in every county. The infestation was quite spotted, most of the damage being done to timothy, bluegrass pastures, and corn. In only a few cases was the destruction complete. Warning of the outbreak was given a month ahead of the appearance of the worms, so that counties were prepared to poison by the time larvae appeared.

Kentucky. W. A. Price (June 25): Armyworms appeared rather generally over the central and western parts of the State during the latter part of May and the early part of June. Their attacks were centered largely on barley.

Iowa. C. J. Drake (June 23): The true armyworm is extremely abundant in the State. Infestations have been reported in about 40 to 50 counties, where small grain and corn have been destroyed.

Missouri. L. Haseman (June 23): As a result of the flight of moths from the south early in May, we had, throughout the latter part of May and up to June 20, probably the heaviest infestation of larvae that ever occurred in this State. The infestation covered practically all of the State



east of a line extending from southwestern Missouri in a northeasterly direction to near the middle of the State on the Iowa border. Some fields of barley have been completely destroyed and damage was serious to fields of wheat, timothy, and alfalfa, also to meadows and pastures. The larvae began maturing about June 10 and from June 15 to 22 the air was filled with moths on cloudy days and toward sundown, as well as during the night. As in the past, most of the moths have moved out presumably northward and are likely to cause an outbreak in Northern States in July. The moths were still abundant on the night of June 22 at Columbia.

Kansas. H. B. Hungerford (June 5): Armyworms have been very injurious about Lawrence.

H. R. Bryson (June 26): Armyworms were abundant in the eastern third of the State June 2.

Oklahoma. F. A. Fenton (June 21): As expected, the armyworm outbreak subsided and an interesting aftermath has been the enormous numbers of Calosoma spp., which are very prevalent.

#### CORN

##### CHINCH BUG (Blissus leucopterus Say)

South Carolina. F. Sherman and W. C. Nettles (June 21): The chinch bug has been abundant in York, Chester, and Lancaster Counties in the north-central section of the State, having migrated from small grains nearby.

Alabama. J. M. Robinson (June 22): Specimens taken from corn following oats at Livingston, on the western border of the State near the center.

Mississippi. C. Lyle (June 24): J. P. Kisilanko reported chinch bugs injuring corn at Laurel on June 11. A complaint of damage was received from Soso on June 21. A light infestation was reported on corn at Durant by D. W. Grimes.

Ohio. T. H. Parks (June 24): Heavy rains throughout June have greatly lessened the chances of chinch bug injury. We have a report from only one county where the bugs are said to be rather abundant. Before the rains they were rather common in some fields of wheat and spring barley. The new brood began hatching during the second week of June.

Indiana. J. J. Davis (June 25): Chinch bugs are showing up in conspicuous numbers from many places in the western two tiers of counties from Greene County northward.

Iowa. H. E. Jaques (June): Chinch bugs are moderately abundant in southern Iowa.

Kansas. H. R. Bryson (June 26): Scarcer this summer than for a number of years. Only one report of injury has been received. Barriers will not be required to protect corn.



Oklahoma. F. A. Fenton (June 21): In the northeastern part of the State the chinch bug is apparently more abundant than at any time since 1934.

CORN EAR WORM (Heliothis obsoleta F.)

Virginia. A. M. Woodside (June 23): Moths were numerous in codling moth bait pails for a week during the latter part of May at Staunton.

South Carolina. F. Sherman and W. C. Nettles (June 21): The corn ear worm is serious on vetch in the Piedmont. It is also reported on cotton, corn, sorghum, and fruit of tomato.

Georgia. O. I. Snapp (June 17): The tomato fruit worm is very abundant this year and has seriously damaged tomatoes at Fort Valley, central Georgia. Besides damaging the fruits, they are even attacking the vines.

T. L. Bissell (June 8): Serious injury to green tomatoes is reported at Cuthbert and Pelham, in southwestern Georgia. One field was a total loss and had to be plowed up. At Griffin, in central Georgia, a severe injury to 1 acre of tomatoes was reported. Half-grown larvae are in the fruit and blossoms and are occasionally boring into the stems. At Orchard Hill, in central Georgia, worms are two-thirds grown and are leaving vetch to feed on small cotton leaves. (June 17): Larvae are eating into seed heads of flax at Hawkinsville, in central Georgia. It is reported that the loss of heads ranges from 3 to 5 percent. (June 22): Investigated tomato infestation at Cuthbert, where the insect was causing severe loss, on June 7. Today larvae are very hard to find-saw two this afternoon. The disappearance does not appear to be due to use of insecticides, although much arsenical insecticide and some rotenone was used.

Indiana. J. J. Davis (June 23): The tomato fruit worm is very abundant, entering green tomatoes in Gibson County in the southern end of the State. This is perhaps earlier than usual and heavy infestations in tomatoes and corn may be anticipated before the season is over.

Kansas. H. R. Bryson (June 22): Causing considerable injury to the curl of corn. The larvae have been taken in tomato fruits.

Alabama. J. M. Robinson (June 19): The corn ear worm is active on corn, attacking the ears of the older and the buds of the younger corn.

Mississippi. C. Lyle (June 24): The corn ear worm has been reported as causing heavy damage to tomatoes over the entire State. J. Milton writes that one grower in Hinds County reported a 25 % loss of his tomato crop.

Louisiana. C. O. Eddy (June 25): Larvae have been very abundant the last month. Birds have torn open ears of corn and fed on the larvae.

Texas. F. L. Thomas (June 22): Seems to be more abundant than usual in Central Texas, probably because of the unusually dry weather and poor condition of corn. Also reported on tomato, corn, and sweet peas in Galveston County in May.



SOUTHERN CORNSTALK BORER (Diatraea crambidoides Grote)

South Carolina. F. Sherman and W. C. Nettles (June 21): The southern cornstalk borer is prevalent, chiefly in the Piedmont section.

Florida. A. H. Madden (June 12): One field of corn in the eastern part of Gadsden County had from 20 to 30 % of the stalks damaged. Other fields were also infested.

Georgia. T. L. Bissell (June 16): At Clarkston, in north-central Georgia, three larvae were found in the leaves of one plant. (June 21): At Milner, in central Georgia, a field of corn is beginning to tassel and about one-fourth of the stalks are infested-none broken, but leaves ragged. (June 23): At Cordele, in south-central Georgia, a field is beginning to silk and about 10 percent of it is infested. Found one pupa in a stalk.

A WEBWORM (Crambus sp.)

Virginia. C. R. Willey (June 14): A species of webworm was noted on May 28 doing considerable damage on a 100-acre tract of land planted in corn on the James River, west of Richmond.

Kentucky. W. A. Price (June 25): Adults of sod webworms continue to be abundant and the larvae have caused much damage to such cultivated crops as corn and tobacco.

LESSER CORNSTALK BORER (Elasmopalpus lignosellus Zell.)

Georgia. Oliver I. Snapp (May 27): The lesser cornstalk borer is damaging young corn at Fort Valley, central Georgia.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Connecticut. N. Turner (June 22): Eggs now hatching. Infestation in Housatonic Valley very heavy. Preliminary observations in Connecticut Valley indicate less egg laying than last year.

New Jersey. E. Kostal (June 26): Heavy infestation in rhubarb and sweet corn at Morganville, in Monmouth County. Moderate infestation in potato stems.

SUGARCANE BEETLE (Euethola rugiceps Lec.)

Virginia. C. R. Willey (June 14): Specimens were sent by a correspondent at Laban, Mathews County, who said they are very numerous in cornfields in his section and are doing lots of damage; also that there have been severe infestations since the flood in this area in August 1933.

Mississippi. C. Lyle (June 24): The rough-headed cornstalk beetle has caused considerable damage this spring. During the first half of June it was reported injuring sugarcane, corn, and cotton.



CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

New York. N. Y. State Coll. Agr. News Letter (June): The corn flea beetle has heavily infested corn in Nassau County, Long Island. Every plant shows feeding marks and early wilt-resistant sweet corn has about 2 % wilt.

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Kansas. H. R. Bryson (June 26): The corn root aphid has been reported as severely damaging corn in Doniphan County.

ALFALFA AND CLOVER

ALFALFA WEEVIL (Hypera postica Gyll.)

Nebraska. L. M. Gates (June 23): A survey being conducted in northwestern Nebraska indicates a reduction in the numbers of alfalfa weevil in the area. No new infestations have been found and some of the fields found infested in 1936 were not infested this year. The development of the species seems to have been delayed from a week to 10 days. Eggs, first-to fourth-stage larvae, and last year's adults are present in the infested fields in northern Sioux County near the South Dakota and Wyoming State lines.

Idaho. R. W. Haegele (June 16): The alfalfa weevil is about the same as in 1936 in southwestern Idaho. Infestations are spotted, with damage ranging from negligible to about 20 % of the first crop. Larvae are mature and pupating, and the first crop of alfalfa is being cut.

Nevada. G. G. Schweis (June 18): The alfalfa weevil has caused some damage in western Nevada. The counties affected most are Churchill, Lyon, Washoe, and Douglas.

Utah. G. F. Knowlton (June 10): In many northern localities damage is becoming more conspicuous.

California. A. E. Michelbacher (June 21): The alfalfa weevil population is at a very low ebb. The average number of larvae collected to 100 sweeps of an insect net in the infested area on June 14 ranged from less than 1 to 15, while the adult count ranged from 0 to 28. The population is the lowest encountered for this time of the year since the investigation was started in 1932. Parasitization by Bathyplectes curculionis Thos. on May 28 ranged well above 90 % and in a number of cases was over 95 %.

CLOVER LEAF WEEVIL (Hypera punctata F.)

Indiana. J. J. Davis (June 25): The clover leaf weevil was destructive to clover and alfalfa in DeKalb County the last of May and the first of June.



H. R. Painter (May 26): A heavy infestation by the two weevils H. punctata and H. nigrirostris F. was seen in a clover field in Lake County. Clover had been seriously damaged by H. punctata but at the time of observation this specie was almost totally destroyed by disease.

Illinois. W. P. Flint (June 23): Adults are now so abundant that they are injuring the new growth of alfalfa where the crop has been cut.

Missouri. L. Haseman (June 23): During the middle of the month numerous complaints came into the office that clover leaf weevils were destroying the second crop of alfalfa. The complaints were usually accompanied by specimens. The wet, cool weather evidently favored the maturing of the larvae, resulting in an unusually heavy brood of adults. However, much of the damage to alfalfa attributed to the weevil was done by cutworms and armyworms.

Kansas. H. R. Bryson (June 22): Adults appeared in sufficiently large numbers in certain alfalfa fields in the eastern third of Kansas to prevent new growth following the first cutting.

Arkansas. Dwight Isely (June 21): There has been a serious local injury to alfalfa in northwestern Arkansas, particularly in Boone and Carrol Counties.

#### GRASS THRIPS (Frankliniella spp.)

California. L. G. Jones (June 5): Alfalfa in the Antelope Valley was severely damaged by the grass thrips F. occidentalis Perg. and F. moultoni Hood. Seasonal conditions early in the spring were favorable for thrips to multiply in the grasslands throughout the valley and, as the vegetation dried, the thrips migrated to the alfalfa fields. The migration started about May 1 and by May 28 three-fourths of the leaves on the alfalfa plants were badly deformed and somewhat skeletonized.

#### FIELD CRICKET (Gryllus assimilis F.)

Arizona. L. R. Stitt (June 22): Appear to be more numerous than last year in the Yuma Valley, but there is no noticeable damage. The alfalfa seed crop is developing and damage to the crop is likely to occur soon. Damage was heavy in 1936 and was 80.5 % in 1934.

#### COWPEAS

##### COWPEA CURCULIO (Chalcodermus aeneus Boh.)

South Carolina. F. Sherman and W. C. Nettles (June 21): Specimens of the cowpea pod weevil were sent in from various sections as injuring beans and young cotton plants.

Georgia. T. L. Bissell (June 22): At Springvale adults appeared on string beans and pods were punctured but no eggs were found. (June 23): At Cordele, in southcentral Georgia, adults were thick on cowpea plants.



Some were leaf feeding. One pod found with an egg and a small grub. None on cotton at Fort Valley, central Georgia, which was infested May 27. The stand was cut less than 5 %, not 20 %, as I reported in the Insect Pest Survey Bulletin, June 1937 (vol. 17, no. 4, p. 191). At Experiment, central Georgia, adults have been slow appearing on cowpeas but are now moderately abundant. As yet there are no pods for them to infest.

#### SORGHUM

##### THIEF ANT (Solenopsis molesta Say)

Kansas. H. R. Bryson (June 26): On May 27 the Kafir ant (S. molesta Say) was reported as destroying planted kafir seed in Douglas and Wabunsee Counties, in east-central Kansas.

California. C. C. Wilson (June 9): In May an unusual infestation occurred near Wheatland, in Yuba County in the Sacramento Valley, where this ant was noted as a pest of milo maize. Two consecutive plantings of seed on 110 acres have been destroyed. Soil examinations were made and the number of ants ranged from 10 to 48 per  $2\frac{1}{2}$  feet of drill row.

#### VETCH

##### VETCH BRUCHID (Bruchus brachialis Fahraeus)

North Carolina. L. J. Bottimer (June 26): On May 2 the writer collected several adults on flowers of Vicia villosa at Princeville in Edgecombe County, and one on the same host plant at Scotland Neck in Halifax County. These collections add two new counties to the infested area of the State.

#### SUGARCANE

##### SUGARCANE BORER (Diatraea saccharalis F.)

Louisiana. B. A. Osterberger (June 25): The sugarcane borer infestation in the Lafourche section of southern Louisiana in the corn, ranges from 45 percent to nothing, with an average of 10 percent; 34.3 percent of the eggs collected parasitized by Trichogramma sp.

L. O. Ellisor (June 25): Examination of sugarcane in West Baton Rouge Parish during the last 2 weeks showed that in some fields as high as 5 percent of the plants were damaged by the first generation. This represents an average of about 1,700 borers per acre. On June 25, 116 masses of eggs were collected in a field of corn. Of these 61 percent were either wholly or partly parasitized by T. minutum Riley. No parasites have been released in this field.

Texas. F. L. Thomas (June 22): D. saccharalis found in cornstalks throughout May in Galveston County.



## FRUIT INSECTS

### ROSE LEAF BEETLE (Nodonota puncticollis Say)

New York. N. Y. State Coll. Agr. News Letter (June): Rose leaf beetles began emerging in the Hudson River Valley on June 1, a week later than the date of first emergence last year. The third week in the month the beetles were generally present and injurious in the orchards.

### A LEAF MINER (Ornix geminatella Pack.)

Michigan. R. Hutson (June 22): The unspotted tentiform leaf miner is abundant in two orchards in the vicinity of Ionia, south of the center of the State. This insect has been increasing in these orchards for the last 6 years.

## APPLE

### CODLING MOTH (Carpocapsa pomonella L.)

New York. D. W. Hamilton (June 24): Moths began appearing in bait traps at Poughkeepsie on the night of May 23. Heavy peak flights occurred from May 30 to June 3 and daily captures have gradually decreased since. Ten bait traps located in the same positions have captured 1,566 moths, as compared to 1,443 during the entire season of 1936. Entrances and stings are much easier to find than they were at this time last year.

N. Y. State Coll. Agr. (June): In western New York the moths have been active since May 30. Eggs were observed in Yates County on June 11 and entrance first observed on June 18. Reports from other counties in that part of the State indicate that the hatch has been delayed and entrances to the fruit are few.

Delaware. L. A. Stearns (June 23): The last emergence of spring-brood moths took place on June 14. The earliest first-brood injury was observed in an orchard on June 1 and injury was general by June 23.

Virginia. A. M. Woodside (June 23): The first larvae left the fruit in the insectary at Staunton on June 17, and on June 18 the first were captured in bands. Emergence of the spring brood of moths is complete in the insectary, but moths continue to be captured in the bait pails.

South Carolina. F. Sherman and W. C. Nettles (June 21): There is less damage than usual, presumably because of the light crop of apples last year.

Georgia. C. H. Alden (June 23): First-generation moths have been emerging at Cornelia, in northeastern Georgia, for about 10 days. Eggs are being laid.

Ohio. T. H. Parks (June 24): The first entrances were noticed in southern Ohio on May 28, at Columbus on June 7, at Toledo June 8, and at Wooster June 10. The insect seems to be well under control, as there are not very many larval entrances in orchards that have received two cover sprays. Moths are still caught in bait pails at Columbus and Toledo.



Indiana. J. J. Davis (June 25): The peak of hatching has been passed in all parts of the State. Weather conditions during June have been less favorable for development than normal.

Michigan. R. Hutson (June 18): A general flight took place at Shelby on June 11. Moth emergence has been rather scattered in other sections of the State.

Missouri. L. Haseman (June 23): There have been only a few days difference in the dates of moth emergence in the south, central, and northern parts of the State. A few scattered moths of the first brood are still being taken in the bait pans throughout the southern and central parts of the State and larger numbers, particularly from the northwestern part. We found the first evidence of first-brood larvae leaving fruit and spinning up under the bands in southern Missouri last week.

H. Baker (June 28): The first moths were caught in bait traps at Saint Joseph on May 16, and peak catches were taken during the period May 21 to 29, and catches have been light since June 8. The first attempted entrances were observed on May 29 and the first exit of a mature larva from fruit was observed on June 17. Catches of spring-brood moths were heavier by far than at any time since 1934 but cool, rainy weather during the period of peak moth activity held egg laying and larval activity to a minimum and few first-brood larvae can be found in orchards.

Kansas. R. L. Parker (June 26): Moderately abundant in northeastern Kansas.

Washington. E. J. Newcomer (June 19): The spring-brood flight in the Yakima Valley reached its peak from May 30 to June 1, about 10 days later than the peak in 1936. Owing to the cool, rainy weather, there has been very little activity since that time.

#### EASTERN TENT CATERPILLAR (Malacosoma americana F.)

Maine. H. B. Peirson (June): Hatching in southwestern Maine was observed on April 27 and tents were noticeable on May 5.

H. N. Bartley (June 14): Serious injury is occurring in southwestern Maine.

New Hampshire. J. G. Conklin (June 24): Cocoons of the eastern tent caterpillar were first observed on May 31 in southern New Hampshire.

Vermont. W. E. Roberts (June 4): Nearly all the wild cherry that has not been sprayed in Rutland and Addison Counties is completely defoliated.

Massachusetts. A. I. Bourne (June 23): The eastern tent caterpillar is again very abundant with no evidence of any reduction in numbers.

Rhode Island. A. E. Stene (May 27): <sup>1/</sup>This insect is again showing up in un-

<sup>1/</sup> This note was incorrectly published on page 171 of the Insect Pest Survey Bulletin dated June 1, 1937, under J. J. Davis of Indiana.



usual numbers in some parts of the State; in fact, they are so abundant on some trees that food is scarce and disease is making an inroad.

Delaware. L. A. Stearns (June 18): The first appearance of adults in New Castle County, in northern Delaware was noted on June 4. Disease is very prevalent.

New York. R. E. Horsey (June): These insects have completed their feeding and are crawling around or forming cocoons at Rochester. The first cocoons were noted on June 10.

Pennsylvania. R. M. Baker (June): A scourge of tent caterpillars occurs in a large area in the west-central part of the State, the infestation diminishing around the area. In some sections the larvae were so numerous on the highways that they created traffic hazards.

#### APPLE APHIDS (Aphididae)

Maine. F. H. Lathrop (June 22): In Kennebec County the first adults of the second generation of Aphis pomi Deg. appeared about June 1. This species is more abundant than usual. Severe infestations developed in some young orchards early in June. Anuraphis roseus Baker is a little more common than usual. This species is not normally important in Maine.

New York. N. Y. State Coll. Agr. News Letter (June): The rosy apple aphid is causing some injury in the Hudson Valley and also in western New York.

Kentucky. W. A. Price (June 25): The rosy aphid is abundant in an orchard at Nanty, Pulaska County, in south-central Kentucky.

Mississippi. C. Lyle (June 24): A correspondent in the northeastern corner of the State reported A. pomi on apple on June 17.

Missouri. L. Haseman (June 23): Some evidence of the rosy apple aphid in orchards in central and southwestern Missouri, although less than usual. Some increase of A. pomi but no particular damage.

Idaho. R. W. Haegle (June 16): Early infestations of the green apple aphid and the rosy aphid in southwestern Idaho have continued. Fruit has been marked and new growth on young trees has been injured.

Washington. E. J. Newcomer (June 19): The rosy aphid is much more numerous in the Yakima Valley than it has been for several years.

#### APPLE LEAFHOPPERS (Cicadellidae)

Maine. F. H. Lathrop (June 22): A small proportion of the white apple leafhopper (Typhlocyba pomaria McAtee) was mature at Monmouth, in Kennebec County, on June 11. No heavy infestations found this spring.

Massachusetts. A. I. Bourne (June 23): Leafhoppers are appearing in about normal abundance, but are later than usual and the infestation is lasting



longer. In most instances the lower half or two-thirds of the trees carry the infestation and very few hoppers are to be found in the upper branches. This year it was necessary to give the trees very thorough coverage to the tops in order to hold the first brood in check.

Connecticut. P. Garman (June 22): The white apple leafhopper is occurring in New Haven County in about average numbers.

New York. N. Y. State Coll. Agr. News Letter (June): The black apple leafhopper (Idiocerus provancheri Van D.) is common in Greene County, in the Hudson River Valley, and in Wayne County, on Lake Erie. The peak of hatching of the white apple leafhopper occurred between May 25 and 27 in the Hudson Valley. The first adults were observed on June 2.

Virginia. A. M. Woodside (June 23): Adults of the white apple leafhopper are moderately abundant in a few orchards in Augusta County.

Indiana. J. J. Davis (June 25): Apple leafhoppers are showing up in threatening numbers throughout the State.

Missouri. L. Haseman (June 23): There has been some increase in abundance of apple leafhoppers; however, there has been practically no spotting of apple foliage.

#### APPLE MAGGOT (Rhagoletis pomonella Walsh)

Connecticut. P. Garman (June 22): Emergence of the flies in New Haven County is much earlier than usual.

New York. N. Y. State Coll. Agr. News Letter (June): Flies began to emerge at Poughkeepsie on June 16 and continued to the end of the month.

#### PEACH

#### ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

New York. N. Y. State Coll. Agr. News Letter (June): Injury was becoming very evident in western New York by the end of the month.

Delaware. L. A. Stearns (June 23): First-brood twig injury is light throughout the State. Parasitization is low in southern Delaware and high in the northern part of the State. Peach drops show moderate infestation.

Georgia. O. I. Snapp (June 14): According to a report, considerable damage to twigs and fruit of peach is occurring at Griffin, in north-central Georgia.

T. L. Bissell. (June 21): A 3-year-old peach orchard at Experiment is infested. Many terminals are injured and a few larvae were in the fruit.

Mississippi. C. Lyle (June 24): Twig injury was observed in southern Mississippi late in May and early in June.



Indiana. J. J. Davis (June 25): Abundant in northern Indiana, where a fruit crop was harvested last year. In other parts of the State twig injury by the first-brood larvae is not conspicuous, but the trap catches indicate a heavy second brood.

Michigan. R. Hutson (June 22): Second brood is numerous in southwestern Michigan.

PEACH BORER (Conopia exitiosa Say)

Georgia. O. I. Snapp (June 18): The first cocoon of the season was found at Fort Valley on May 28. The moth (a female) had just emerged. The first moth was taken on May 8 last year. Peach orchards in the vicinity have been examined regularly for cocoons since May 4.

T. L. Bissell (June 23): Large larvae are being taken from 3-year-old peach trees at Experiment today.

PEACH TWIG BORER (Anarsia lineatella Zell.)

New York. R. W. Leiby (June 16): An adult was taken at a light trap near a peach tree at Ithaca on June 15. This is the first record of the capture of an adult in New York since 1924, according to W. T. M. Forbes.

Arizona. C. D. Lebert (May 25): The peach twig borer is working in plum and apricot in the Phoenix district. A little fruit injury has been observed recently. One borer was found in pear at Glendale, in the same district, on June 4.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Maine. F. H. Lathrop (June 22): Emergence of adults from hibernation cages in Kennebec County occurred between May 10 and 31. Egg punctures were noticed on young apples soon after application of the calyx spray.

Massachusetts. A. I. Bourne (June 23): Curculio has been at least normally abundant.

Connecticut. P. Garman (June 22): Abundant in some orchards in New Haven County.

Georgia. O. I. Snapp (June 18): The infestation is still very light at Fort Valley. All of the early varieties of peaches have been harvested and were remarkably free from damage. The first pupation of the season was recorded on May 27. Adults of the first generation began to emerge from soil in the laboratory on June 4, a week later than emergence in 1935 and 1936. A number of new beetles were taken in peach orchards on June 5 by jarring.

T. L. Bissell (June 21): Curculio is very scarce in peach at Experiment.



C. H. Alden (June 23): First-generation beetles began to emerge from soil cages at Cornelia in northeastern Georgia on June 21, when 7 beetles emerged. On June 23, 20 beetles emerged. No eggs or "sting peaches" found in the field.

Mississippi. M. L. Grimes (June 24): This insect is abundant, even on sprayed trees in central Mississippi, on the eastern border.

Texas. F. L. Thomas (June 22): Reports have been received of more than usual abundance of curculio in peach in Smith County, northeastern Texas. Damage is considerably greater than last year.

Michigan. R. Hutson (June 18): The plum curculio was reported from southern Michigan the later part of May and early in June. Later reports indicate an abundance of the insect.

#### GREEN PEACH APHID (Myzus persicae Sulz.)

Washington. E. J. Newcomer (June 19): The green peach aphid is more numerous in the Yakima Valley than it has been for several years.

#### LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

Georgia. O. I. Snapp (June 5): These coreids are more abundant than usual on peach at Fort Valley, damaging the ripening fruit.

#### PEAR

#### PEAR PSYLLA (Psyllia pyricola Foerst.)

New York. N. Y. State Coll. Agr. News Letter (June): This insect is not causing much injury this year.

Michigan. R. Hutson (June 22): The pear psylla is beginning to appear in unsprayed orchards in the southern part of the State.

#### PEAR LEAF-CURLING MIDGE (Dasyneura pyri Bouche)

New York. N. Y. State Coll. Agr. News Letter (June 1): Larvae were observed on pear in Ulster and Dutchess Counties, in the Hudson Valley, the last week of May.

#### PEAR BORER (Conopia pyri Harr.)

Virginia. A. M. Woodside (June 23): Adults of the pear borer were captured in considerable numbers in bait pails at Staunton in June.

#### CHERRY

#### CHERRY FRUITFLIES (Rhagoletis spp.)

New York. D. W. Hamilton (June 24): A few flies of R. fausta O. S. were cap-



tured in the emergence cages in the vicinity of Hudson from May 31 to June 2. R. cingulata Loew began emerging in the cages on June 7 and are still appearing in comparatively large numbers.

Michigan. R. Hutson (June 18): R. fausta was reported from Gobles on June 8, from Niles on the 10th, and from Grand Rapids on the 12th.

BLACK CHERRY APHID (Myzus cerasi F.)

Michigan. R. Hutson (June 22): This aphid is numerous in southern Michigan.

Idaho. R. W. Haegele (June 16): Heavy infestations on cherry in southwestern Idaho.

Utah. G. F. Knowlton (June 17): This aphid is rolling cherry foliage in northern Utah.

PLUM

HOP APHID (Phorodon humuli Schr.)

Indiana. J. J. Davis (June 25): A green aphid, which we believe to be P. humuli, was exceedingly abundant on plum at South Milford, in northeastern Indiana.

MEALY PLUM APHID (Hyalopterus arundinis F.)

Idaho. R. W. Haegele (June 16): Infestations appeared in Italian prune orchards in southwestern Idaho about June 1 and have increased rapidly. There will be some loss to the crop.

BLUEBERRY

CHAIN-SPOTTED GEOMETER (Cingilia catenaria Drury)

Massachusetts. A. I. Bourne (June 23): During the first week in June a very serious outbreak occurred in blueberry fields in the hill towns in the lower Connecticut River Valley. In 1936 our attention was called to a slight infestation, covering approximately 2 acres, in that section. The late frost of May 1936, however, wiped out the crop. Some of the area was burned over this year early in the spring. The infestation has now spread throughout the Granville section and approximately 50 acres have been completely defoliated. When we visited the fields the insect was advancing about 10 feet a day, leaving havoc in its path. This is the most severe infestation of this pest that we have ever observed.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Delaware. L. A. Stearns (June 23): Infestation over the State is light, owing to continued wet weather throughout the period of first-brood development.



California. M. S. Morley (June 7): Adults are very numerous on untreated grapevines in Kern County.

CURRENT

IMPORTED CURRENT WORM (Pteronidea ribesii Scop.)

Maine. H. B. Peirson (June 9): Larvae were reported as defoliating current at Augusta in southern Maine.

Indiana. J. J. Davis (June 25): Larvae were reported as defoliating current at La Fayette on May 28 and at Winchester on June 3.

CURRENT APHID (Myzus ribis L.)

North Dakota. J. A. Munro (June 22): The current aphid has been abundant but parasites are holding it in check.

BLACKBERRY

BLACKBERRY LEAF MINER (Metallus rubi Forbes)

Michigan. R. Hutson (June 22): The blackberry leaf miner defoliated a 2-acre field of blackberries near Sandusky, in eastern Michigan.

A PSYLLID (Trioza tripunctata Fitch)

New Hampshire. J. G. Conklin (June 24): Damage by the blackberry psyllid was observed in southern New Hampshire on June 23. Large numbers were ovipositing on terminals of new growth.

PECAN

FALL WEBWORM (Hyphantria cunea Drury)

Georgia. O. I. Snapp (June 23): Nests are common on pecan trees at Fort Valley. Larvae about half grown.

Florida. F. S. Chamberlin (May 27): Very abundant on pecan trees in Gadsden County.

Mississippi. C. Lyle (June 24): According to G. L. Bond and H. Gladney, webs have been noticeable on pecan trees along the Coast since the latter part of May and are now quite numerous. J. E. Lee reports that the webs are beginning to appear in Pearl River County.

ENGLISH WALNUT

A CURCULIO (Conotrachelus juglandis Lec.)

Pennsylvania. A. B. Champlain (June 22): The new growth of English walnut trees in east-central Pennsylvania is being attacked by this curculio.



NAUTICAL BORER (Xylotrechus nauticus Mann.)

California. H. C. Donohoe (June 8): In November, 1936, a number of large limbs in an old planting of English walnuts in Fresno County, in the San Joaquin Valley, broke off. Examination of the trees showed that, although apparently healthy, they were riddled by these borers. This year adults emerged from the material in April and May.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida. H. T. Fernald (June 23): A new generation of adults is beginning to appear in the vicinity of Orlando.

Mississippi. C. Lyle (June 24): Some heavy infestations on ornamentals in southern Mississippi were observed about the middle of June. N. D. Deets reports the insect as abundant in the southwestern part of the State.

Louisiana. I. J. Becnel (June 25): D. citri is present in all stages on citrus in Plaquemines Parish.

GREEN CITRUS APHID (Aphis spiraecola Patch)

Florida. H. Spencer (June 24): Infestations have been particularly severe on orange and grapefruit trees in the main citrus district, on lime trees on the Keys, and on terminal new growth of Satsumas in the northern counties. The aphid was first noticed of late in December 1936 on Merritt's Island off the east coast, and during the blooming period considerable damage was done. The outbreak is now rapidly subsiding.

SCALE INSECTS (Coccidae)

Louisiana. I. J. Becnel (June 25): Heavy infestations of Lepidosaphes beckii Newm. are occurring in several citrus groves in Plaquemines Parish. The insect is mostly in the egg stage, although a few crawlers and young nymphs are present. Several heavy infestations of Coccus hesperidum L. are occurring. This species is mostly in the adult stage. Many specimens of L. gloverii Pack are also present.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Florida. H. Spencer (June 14): The citrus mealybug is becoming abundant in orange and grapefruit groves in central Florida and the upper east coast fruit belt.

CITRUS RUST MITE (Phyllocoptes oleivorus Ashm.)

Florida. J. R. Watson (June 25): Rust mites are very abundant in citrus groves. Spraying is general.

Texas. N. O. Berry (June 5): The infestation in the Rio Grande Valley appears to be about normal.



ALMONDS

NAVAL ORANGE WORM (Myelois venipars Dyar)

Arizona. C. D. Lebert (June 14): Larvae found in old nuts and under bark of almonds at Glendale, near Phoenix. No injury to the present crop of almonds.

TRUCK CROP INSECTS

BLISTER BEETLES (Meloidae)

South Carolina. F. Sherman and W. C. Nettles (June 21): The striped blister beetle (Epicauta vittata F.) is reported from the eastern part of the State on beans.

Kentucky. W. A. Price (June 25): Blister beetles were reported to have damaged a field of alfalfa at Mayfield.

North Dakota. J. A. Munro (June 22): Blister beetles, Macrobasis unicolor Kby. and E. pennsylvanica Deg., are reported to be troublesome in Barnes, Mercer, and Morton Counties.

Iowa. H. E. Jaques (June 23): Blister beetles, both black and gray, appeared unusually early this year and have done some damage to alfalfa.

Missouri. L. Haseman (June 23): We are receiving numerous complaints from various sections of Missouri regarding the abundance of blister beetles attacking second-growth alfalfa, as well as garden and truck crops.

Kansas. H. R. Bryson (June 13): Blister beetles have been causing considerable damage to potatoes, tomatoes, and other garden crops in the vicinity of Kansas City, in Jewell County, and at Manhattan, in Riley County. The beetles appeared in alfalfa fields in greater numbers than usual during June and ate the bloom extensively.

Oklahoma. C. F. Stiles (June 23): Blister beetles have been doing considerable damage to tomatoes in Mayes County.

Alabama. J. M. Robinson (June 19): E. vittata appeared in large numbers as far north as Auburn the last of May on various crops. One farmer had his children take branches and drive the beetles from the cotton into the gallberry thickets, where they seemed to be content to feed. During the first 2 weeks of June complaints have been coming in from central and northern Alabama regarding M. unicolor, which has been appearing in large numbers in field crops and gardens. Numbers are sufficient to be considered an outbreak.

Mississippi. C. Lyle (June 24): Blister beetles were reported attacking vegetables at Corinth on June 9, and potatoes at Tupelo and Smithville on June 10 and at Durant on June 19. E. pennsylvanica was damaging potatoes in Grenada and Lafayette Counties in June. E. lemniscata F. was found on cotton at Pontotoc on June 11, and specimens of M. unicolor were received



from a correspondent at Lake Como on June 14.

Louisiana. C. O. Eddy (June 25): The striped blister beetle has been abundant locally in several parts of the State.

#### FLEA BEETLES (Halticinae)

New Hampshire. J. G. Conklin (June 24): Flea beetles began appearing in numbers on potato, eggplant, and tomato on June 1 in southern New Hampshire.

New York. N. Y. State Coll. Agr. News Letter (June 14): Flea beetles are severely damaging lima beans in a garden in Columbia County. Severe injury was reported on June 11 from two plantings of beans totaling from 8 to 10 acres in Cortland County. In Oswego County flea beetles are causing considerable injury to tomatoes, cabbage, and early potatoes. In Niagara County flea beetle injury is not serious except on potatoes.

Ohio. T. H. Parks (June 24): Systema blanda Melsh. was sent in with the report that it was injuring tomatoes.

Indiana. J. J. Davis (June 25): The pale-striped flea beetle was very destructive to corn at Clayton on June 8. Phyllotreta pusilla Horn and P. vittata F. were damaging cabbage at Rockport on June 8.

Utah. H. E. Dorst (June 25): Flea beetles are very numerous on sugar beets in the northern portion of Sevier Valley and have destroyed many stands.

#### STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

Massachusetts. A. I. Bourne (June 23): There was very little mortality of the striped cucumber beetle and it is more abundant than usual.

Connecticut. N. Turner (June 22): Abundant as usual in southern Connecticut and appeared on squash, melons, and cucumbers.

Indiana. J. J. Davis (June 25): More abundant than usual in some sections of the State, particularly in the large melon-growing districts in Jackson County.

Kansas. H. R. Bryson (June 23): D. vittata F. was abundant at Bremen.

Mississippi. C. Lyle (June 24): The striped cucumber beetle was ruining watermelons at Columbus on June 12. N. L. Douglass at Grenada, M. L. Grimes at Meridian, and N. D. Peets at Brookhaven report infestations in their districts.

#### SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata F.)

Virginia. H. G. Walker and Lauren D. Anderson (June 24): More abundant than usual but has not caused much damage in Norfolk.



North Carolina. W. A. Shands (June 25): This insect has been more abundant at Oxford during June than in June 1936. Although injury to tobacco has been light in comparison to that caused by other insects, it was more serious than in 1936. Severe injury was reported on young watermelon plants.

Georgia. O. I. Snapp (May 27): Has ruined corn in a field that laid fallow last year at Fort Valley, central Georgia.

A SCARABAEID (Strigoderma arboricola F.)

Maryland. E. N. Cory (June 15): Flying in numbers on the beach at Assateague Island and in small numbers in most of the bean and potato fields on the lower part of the Eastern Shore.

SEED CORN MAGGOT (Hylemia cilicrura Rohd.)

Connecticut. A. W. Morrill Jr. (June 1): Several shade tents of tobacco in widely scattered locations showed damage, one or two being so severely injured as to necessitate resetting.

New York. R. W. Leiby (June 16): Severe damage to fields of red kidney beans reported from Wayne, Cortland, Monroe, and Tompkins Counties. Damage ranged from 20 to 100 % and the most severely damaged fields, some of which were from 4 to 8 acres in size, were plowed up.

N. Y. State Coll. Agr. News Letter (June 14): Severe damage by this insect and by flea beetles was estimated at nearly 50 % to young bean plants on June 11 from two plantings of beans totaling from 8 to 10 acres. Other reports of similar injury in Cortland County. Two plantings totaling 12 acres of kidney beans in Tompkins County will be plowed up because of practically total loss. This insect caused losses to spinach grown this year in Nassau County.

Indiana. J. J. Davis (June 25): The seed corn maggot severely damaged beans at Greenfield on June 8.

Michigan. R. Hutson (June 18): Infestation is very common. The pest is known as the bean maggot. The entire district of south-central Michigan, where white seed beans are raised, is infested.

North Dakota. J. A. Munro (June 21): Specimens, together with reports of moderate-to-heavy injury to corn and potatoes, have been received from points in Barnes, Sheridan, and Ward Counties.

Colorado. R. L. Wallis (June 23): Many growers have reported damage to young cucumbers in Grand Valley. In some cases it has been necessary to replant.

STALK BORER (Papaipema nebris nitela Guen.)

New Jersey. E. Kostal (June 26): One of our serious garden pests at Marganville, Monmouth County, and, together with the European corn borer, is inflicting heavy damage to sweet corn and many other plants.



GREEN STINKBUG (Nezara viridula L.)

Alabama. J. M. Robinson (June 19): The green stink bug on June 15 was reported as playing havoc with beans and peas at Ozark. Other crops were seriously damaged.

Mississippi. C. Lyle (June 24): A correspondent at Lexie sent to this office specimens collected on beans on June 9. G. L. Bond at Moss Point reports that they are more numerous and are causing more trouble than he has ever known. He states that they were found on June 12, attacking cotton, okra, watermelon, and cantaloup vines, and that an acre of corn and beans nearby had been completely destroyed by them. Mr. Bond also found them in Jackson County on June 15 injuring beans and tomatoes.

FALSE CHINCH BUG (Nysius ericae Schill.)

Utah. H. E. Dorst (June 25): Nymphs and adults are moving from maturing blister cress (Cheirinia repanda) to adjacent sugar beets and are causing severe injury to the beets that have not already been destroyed by flea beetles and beet leafhoppers in Sevier Valley.

Arizona. K. B. McKinney (June 15): False chinch bugs have been very scarce throughout the Salt River Valley this spring. Usually the nymphs become very annoying when the wild mustard dries and they begin migrating.

GARDEN CENTIPEDE (Scutigera immaculata Newp.)

Utah. G. F. Knowlton (June 17): Garden centipedes are damaging strawberry plants and apparently other young garden plants on one farm at Pleasant Grove in Utah County.

California. A. E. Michelbacher (June 21): In the delta district of the Sacramento and San Joaquin Rivers the garden centipede has caused considerable damage. In certain fields the population is building up rapidly. Two fields were surveyed on June 17 and 18 and the estimated number of garden centipedes per acre based on those actually recovered from samples was 10,000,000. A large number of the individuals recovered were first- and second-stage larvae.

POTATO AND TOMATO

VEGETABLE WEEVIL (Listroderes obliquus Klug)

California. R. E. Campbell (June 14): In an 80-acre field of tomatoes south of Chino, San Bernardino County, 100 % of the plants, just after being transplanted into the field, were attacked by vegetable weevils and caused enough damage to require 90 % replanting. This field had a cover crop of mustard on which the larvae developed in numbers. After the cover crop was plowed under and the field was planted to tomatoes the adults concentrated on the latter in large numbers.



TOBACCO STALK BORER (Trichobaris mucorea Lec.)

Arizona. C. D. Lebert (June 4): A small planting of potatoes near Phoenix was almost completely infested by this insect, known as the jimson weed borer. Ten vines were pulled at random and each stalk contained a borer.

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Maine. G. W. Simpson (June 15): Beetles seem to have been winter killed to a large extent at Presque Isle, Aroostook County. No egg laying at this time.

Washington. R. S. Lehman (June 19): Has been more numerous than for several years. Practically all potato fields in the Walla Walla section have been sprayed or dusted. This is unusual.

Belgium. Gardeners' Chron. (London) (June 5): The progress of the Colorado beetle in Belgium appears to have been checked and every effort is being made to prevent any reappearance of this pest.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Maine. G. W. Simpson (June 15): Flea beetles overwintered in smaller numbers than usual at Presque Isle, perhaps because of less snow cover. Were found on potatoes as soon as plants came above ground. Egg laying started but is not yet at its peak.

Connecticut. N. Turner (June 22): Unusually heavy damage this spring; untreated potatoes seriously injured in southern Connecticut.

Michigan. R. Hutson (June 22): Potato flea beetles are very numerous in the vicinities of Howell and Riga.

North Dakota. J. A. Munro (June 22): Potato flea beetles abundant in potato fields near Fargo.

TOBACCO FLEA BEETLE (Epitrix parvula F.)

North Carolina. W. A. Shands (June 25): Injury by tobacco flea beetle to fully grown Irish potatoes in one field at Mount Airy was so severe that approximately 50 % of the stand was killed by June 12.

TOMATO PINWORM (Gnorimoschema lycopersicella Busck)

Arizona. C. D. Lebert (June 3): A rather heavy infestation of tomato pinworm was found by J. C. Elmore in a small plot of tomatoes northeast of Phoenix.

California. J. C. Elmore (June 4): Less than 1 percent of the tomatoes in one field near Westmoreland, Calif., were infested by the pinworm. Two other fields were free of pinworm. Examinations of several tomato fields near Indio, in the Coachella Valley, showed that pinworms were not present.



SMARTWEED BORER (Pyrausta ainslei Heinr.)

North Carolina. J. U. Gilmore (June 24): On June 12 it was observed attacking 5 % of a garden plot of tomato vines at Oxford, Granville County.

POTATO APHID (Illinoia solanifolii Ashm.)

Maine. G. W. Simpson (June 15): Owing to its relation to the spread of potato virus diseases, the abundance of this aphid on its overwintering host is of importance to the potato crop now emerging from the ground. More aphids are present on rose at this time than usual and fewer hymenopterous parasites of this aphid in evidence at Presque Isle.

Virginia. H. G. Walker and L. D. Anderson (June 24): The pink and green potato aphid is present but rather scarce in fields of tomatoes and potatoes in Norfolk and Princess Anne Counties.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Virginia. H. G. Walker and L. D. Anderson (June 24): The potato leafhopper is rather abundant in many fields of potatoes and beans near Norfolk and Suffolk and on the Eastern Shore.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

Massachusetts. A. I. Bourne (June 23): Have been appearing generally in much greater abundance than last year and there is evidence that unprotected fields will suffer severely.

Connecticut. N. Turner (June 22): Damage on garden beans has been more severe than for 3 years in southern Connecticut.

New York. N. Y. State Coll. Agr. News Letter (June): Observed the first of the month in southeastern New York, and by the last of the month the beetles were generally abundant. Eggs being laid but none had hatched.

New Jersey. T. L. Guyton (June 15): Overwintering adults numerous on beans at Bound Brook.

Delaware. L. A. Stearns (June 23): Infestation light on beans.

Virginia. A. M. Woodside (June 23): Began to appear in gardens in Augusta County in considerable numbers about May 26.

H. G. Walker and L. D. Anderson (June 24): Rather scarce in all of the bean fields observed near Norfolk.

South Carolina. F. Sherman and W. C. Nettles (June 21): At Clemson the emergence from winter cages has been 50.26 percent, which is decidedly above average.



Georgia. T. L. Bissell (June 22): Found several large larvae in a short row of beans. One plot was defoliated in a garden on a stream bank at Springvale, southwestern Georgia.

C. H. Alden (June 23): Heavy infestations on beans and serious damage where beans have not been properly treated at Cornelia.

Tennessee. G. M. Bentley (June ): Has not been serious generally over the State until the last few days, which have brought in many inquiries for control.

Alabama. J. M. Robinson (June 19): Reported from Ozark on June 8.

Mississippi. C. Lyle (June 24): Specimens were received from Toccopola and Water Valley on June 16. L. G. Goodgame, of Aberdeen, states that he has received many complaints of injury from Monroe County.

Colorado. G. M. List (June 21): The first beetle of the season was taken in the Fort Collins district on June 12. At this time the numbers seem to be considerably below normal.

R. L. Wallis (June 23): The appearance of beetles in the fields was 2 weeks later than usual. Examinations of beetles in hibernation cages show that there will be less than 5 percent emergence in the Grand Valley.

#### CABBAGE

##### IMPORTED CABBAGE WORM (Ascia rapae L.)

Connecticut. N. Turner (June 22): Appeared early but is causing little damage in southern Connecticut.

Virginia. H. G. Walker and L. D. Anderson (June 24): Has been rather abundant and has done considerable damage to untreated late spring cabbage at Norfolk. Nearly all of the early cabbage was harvested without being injured.

Ohio. T. H. Parks (June 24): Cabbage worm butterflies are common and egg laying is going on at a rapid rate.

Mississippi. L. G. Goodgame (June 24): These insects are ruining cabbage in gardens at Aberdeen.

Washington. R. S. Lehman (June 19): The cabbage butterfly has so far been absent around Walla Walla. This is unusual.

##### DIAMONDBACK MOTH (Plutella maculipennis Curt.)

New York. N. Y. State Coll. Agr. News Letter (June 21): Large numbers of moths are laying eggs in cabbage seed beds in Monroe County.

Virginia. H. G. Walker and L. D. Anderson (June 24): The larvae are from rather scarce to moderately abundant on late spring cabbage at Norfolk.



Kansas. H. R. Bryson (June 2): Reported as abundant at McPherson and other localities.

Colorado. G. M. List (June 7): The second-brood moths are now appearing in large numbers. The larvae have done noticeable damage to many wild plants and to early cabbage and cauliflower. In commercial plantings the insect definitely prefers cabbage to cauliflower.

Washington. R. S. Lehman (June 19): The larvae have done considerable damage to early cabbage. This is the first heavy infestation of the diamondback moth for about 4 years at Walla Walla.

CABBAGE MAGGOT (Hylemia brassicae Bouche)

New Hampshire. J. G. Conklin (June 24): Damage is more severe than in 1936. First-generation pupae were found in Durham on June 1.

New York. N. Y. State Coll. Agr. News Letter (June 7): Causing moderate-to-severe damage in late cabbage seed beds in Wayne County. Flies are still present in rather large numbers.

Michigan. Ray Hutson (June 22): Have been observed in large numbers in southern Michigan.

CABBAGE APHID (Brevicoryne brassicae L.)

Indiana. J. J. Davis (June 25): Reported rather abundant the first of June in several localities in central Indiana.

Michigan. R. Hutson (June 22): Cabbage aphids were observed in the vicinity of Riga.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Virginia. H. G. Walker and L. D. Anderson (June 24): Present but relatively scarce in fields of collards and kale kept for seed in Norfolk.

Georgia. O. I. Snapp (June 18): Seriously damaging young collard plants at Fort Valley, central Georgia.

Mississippi. C. Lyle (June 24): Causing serious injury to garden vegetables at Europa on June 2, at Magnolia on June 15. Inspectors report damage to garden vegetables at Aberdeen, Durant, and Meridian.

PEAS

PEA APHID (Illinoia pisi Kltb.)

Maine. J. H. Hawkins (June): First swept from clover on May 25 at Unity, in southern Maine, and on June 3 they were fairly abundant. A few I. solanifolii Ashm. were also observed in several fields of red clover on May 25.



Connecticut. N. Turner (June 22): Several heavy infestations have been eliminated by lady beetles, syrphids, and lace-wings. Many growers are confusing damage from root rots with pea aphid injury in southern Connecticut.

New York. N. Y. State Coll. Agr. News Letter (June 7): A heavy infestation has caused considerable damage to the pea crop. From 50 to 75 % of the plants in many fields in Nassau County have been inoculated with mosaic virus. (June 14): Practically all fields examined show some aphid infestation, ranging from 5 or 10 percent to fully 100 percent in Geneva, Ontario County.

Utah. G. F. Knowlton (June 9): Sufficiently numerous on farms 7 miles northwest of Brigham, in Boxelder County, to require control measures.

### CUCUMBERS

#### PICKLEWORM (Diaphania nitidalis Stoll)

South Carolina. C. O. Bare (June 19): The pickleworm was found in nearly every blossom of a small planting of squash in Windermere, Charleston County, on June 19. In this locality it usually appears first the early part of July.

Florida. J. R. Watson (June 25): Some damage was done by the pickleworm and the melon worm (D. hyalinata L.) in May, but on the whole this insect does not seem to be as abundant as usual.

Mississippi. G. L. Bond (June 24): This pest has severely damaged cantaloups and cucumbers around Moss Point for the last 2 weeks.

### SQUASH

#### SQUASH BUG (Anasa tristis Deg.)

Connecticut. R. L. Beard (June 22): Early in the season two species, A. tristis and A. armigera Say, were about equal in numbers in southern Connecticut. By June 15 A. tristis was much more abundant.

New York. N. Y. State Coll. Agr. News Letter (June 21): Eggs of squash bug are now being laid in Rockland County.

South Carolina. F. Sherman and W. C. Nettles (June 21): More complaints than usual.

Kansas. H. R. Bryson (June 26): The squash bug, aided by hot, dry weather, is causing injury to squashes and pumpkins.

Mississippi. C. Lyle (June 16): Damaging squash at Tupelo.

#### SQUASH BORER (Melittia satyriniiformis Hbn.)

Georgia. O. I. Snapp (June 17): The squash vine borer is damaging squash at Fort Valley, central Georgia, boring into the vines and fruit.



## ONIONS

### ONION THRIPS (Thrips tabaci Lind.)

Virginia. H. G. Walker and L. D. Anderson (June 24): Thrips have been very abundant on cabbage and onions at Norfolk.

Indiana. J. J. Davis (June 23): Onion thrips are doing considerable damage to recently propagated chrysanthemums in greenhouses at Lafayette.

Washington. R. S. Lehman (June 19): More numerous than usual this early in the season at Walla Walla. In some fields the onions will be much smaller on account of thrips.

### ONION MAGGOT (Hylemia antiqua Meig.)

New York. N. Y. State Coll. Agr. News Letter (June 14): In western New York onion maggot-flies are still prevalent in Oswego County, and onion seedlings in Wayne County have been going down this week from maggot injury.

Utah. G. F. Knowlton (June 26): Damaging onions at Salt Lake and Vineyard.

### A PLANT BUG (Labopidea allii Knight)

Kansas. H. R. Bryson (June 25): The onion plant bug caused severe injury to onions in May but has now practically disappeared from the onion tops. It was reported as attacking onion in Mitchell, Marshal, and Doniphan Counties.

## CARROT

### CARROT BEETLE (Ligyrus gibbosus Deg.)

Iowa. C. J. Drake (June 23): Specimens have just been received from Manilla, taken in carrots. Plants were badly damaged.

### CARROT RUST FLY (Psila rosae F.)

New York. N. Y. State Coll. Agr. News Letter (June 1): The first carrot rust flies emerged on May 27 and 28 in a cage located on muck north of Newark, Wayne County.

## ASPARAGUS

### ASPARAGUS BEETLES (Crioceris spp.)

Massachusetts. A. I. Bourne (June 23): Asparagus beetles suffered very little mortality and are more abundant than usual. Many growers, particularly in the western part of the State, found them present in such numbers that their cutting season had to be interrupted to spray.

New York. N. Y. State Coll. Agr. News Letter (June): Very numerous on Long Island the first week of the month. In western New York, in Onondago



County, the beetles were numerous the first week of the month and the last week of the month they were reported as stripping foliage in Chautauqua County.

#### SUGAR BEETS

##### BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. H. E. Dorst (June 25): Large population of beet leafhoppers accompanied by flea beetles have retarded the growth to resistant varieties of sugar beets in Sevier County. In the Hooper district from 10 to 15 percent of the tomato plants have contracted the western yellow blight disease, transmitted by the beet leafhopper.

#### TOBACCO

##### TOBACCO FLEA BEETLE (Epitrix parvula F.)

Virginia. W. J. Schoene (June 24): There is an outbreak in the Piedmont section. This flea beetle injury is associated with certain diseases and the combined effect has made it very difficult to obtain a stand of tobacco plants. The injury is the most severe on record, many plants being completely consumed.

North Carolina. W. A. Shands (June 25): Severe injury by adults and larvae on newly set flue-cured tobacco occurred in June in northwestern and north-central parts of North Carolina. Loss in stands and the presence of severely injured plants were heaviest in Surry, Stokes, and Yadkin, followed by that in Forsyth and Guilford Counties. This injury was also common but less severe in Person and Granville Counties. Tentative estimates in the counties suffering the most injury place the living stand at only 50 to 70 percent, even after the tobacco fields were replanted from three to five times.

Florida. F. S. Chamberlin (June 17): Considerably more abundant than normal in the tobacco-producing district in Gadsden County.

Tennessee. G. M. Bentley (June 1937): Very abundant in the tobacco-growing counties.

L. B. Scott (June 28): Moderately abundant in western Tennessee. The infestation increased noticeably about June 20, but there are no indications at present that the insects will become more than normally abundant in Montgomery County.

##### POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Massachusetts and Connecticut. A. W. Morrill, Jr. (June 1): More beetles than ever at this time of year in the Connecticut River Valley. Tobacco plants attacked are riddled before setting is completed. Young potatoes badly riddled; very general. Some 20- to 30-acre tobacco fields had to be reset.



TOBACCO BUDWORM (Heliothis virescens F.)

Florida. F. S. Chamberlin (June 3): The tobacco budworm appears to be normally abundant in shaded and sun-grown tobacco fields in Gadsden County.

POTATO TUBER WORM (Gnorimoschema operculella Zell.)

North Carolina. J. U. Gilmore (June 24): First appearance of this pest was on June 14 at Oxford, Granville County. Damage slight.

CORN ROOT WEBWORM (Crambus caliginosellus Clem.)

Tennessee. J. U. Gilmore (June 24): By June 11 three or four replantings had been necessary at Mountain City in Johnson County.

TOBACCO HORNWORMS (Protoparce spp.)

South Carolina. F. Sherman and W. C. Nettles (June 21): The tobacco hornworm has been complained of from the northeastern section of the State.

Tennessee. L. B. Scott (June 14): Eggs started hatching on June 12 in Montgomery County. The infestation appears to be slightly more severe than usual.

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 .

CANKERWORMS (Geometridae)

Maine. H. B. Peirson (June): The fall cankerworm (Alsophila pometaria Harr.)

and the spring cankerworm (Paleacrita vernata Pack.) are heavily infesting forest and shade trees, especially elm, in southern Maine.

S. E. Mullen (June 9): At Portland the spring cankerworm defoliated from 50 to 75 percent of the oak, elm, maple, ash, and apple trees it attacked. Some of the trees were completely defoliated. (June 15): Woodlands from Kennebunkport, north and northeast along Atlantic Highway, for several miles on both sides of the road, are defoliated from 75 to 100 percent by this cankerworm.

Vermont. H. L. Bailey (June 29): The fall cankerworm is abundant in Burlington and neighboring sections of Chittenden County. Scattered elms along the road to Saint Albans have been defoliated.

Massachusetts. A. I. Bourne (June 23): Cankerworms are more abundant in many parts of the State than last year. Serious injury to elm is again reported from Berkshire County.

W. E. Weeks (June 9): Elms in Sheffield, Berkshire County, have been damaged up to 90- percent defoliation by cankerworms.

W. W. Bancroft (June): Elms at Mill River have been completely



defoliated by the spring cankerworm.

Connecticut. B. H. Walden (June 22): The fall cankerworm is locally abundant on apple and elm in Litchfield County. A number of trees have been nearly stripped. The insect is less abundant than last year.

New Jersey. C. W. Collins and C. L. Griswold (June): Cankerworms have not been so numerous as in 1935 and 1936. The most noticeable feeding is in an area in the southern part of Morris County and the adjoining portion of Somerset County. There has also been spotted defoliation in areas in northern Somerset County.

Pennsylvania. R. M. Baker (June): Cankerworms are very abundant throughout the forested areas of the State and are prevalent in apple orchards in western Pennsylvania.

F. W. Graham (June 10): Apple trees in Carbon County are heavily infested, some being entirely defoliated by cankerworms.

Ohio. T. H. Parks (June 24): The cankerworm outbreak, which was severe in May, terminated early in June. It extended into the northeastern counties but was most injurious to elms and unsprayed apple trees in the western half of the State. The outbreak was the most severe in several years.

Indiana. J. J. Davis (June 25): The spring cankerworm has been very abundant throughout the northeastern quarter of the State. Unsprayed apple, plum, and forest trees, principally elm and ash, were severely defoliated.

Michigan. R. Hutson (June 18): Both species of cankerworm have been reported from southern Michigan.

Iowa. C. J. Drake (June 23): Several species of cankerworms are extremely abundant in the southern and eastern parts of Iowa. Many elm trees are totally defoliated.

Nebraska. N. D. Wygant (June 8): The spring cankerworm is very abundant and has completely defoliated much of both native and planted elm and hackberry in the vicinity of North Platte.

A. GEOMETRID (Physostegania pustularia Guen.)

Pennsylvania. R. M. Baker (June 24): Very abundant in the wooded areas of the State. Great clouds of moths are attracting attention, fluttering through the woods and even in cities and towns.

A. B. Champlain (June 27): Moths are swarming by the millions through the woods, especially in Dauphin and Perry Counties, woodlands and nearby flowers are covered with them. Chestnut blossoms look like spikes of white bloom.



FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

- Maine. H. B. Peirson (June 15): This insect is occurring in great abundance, completely stripping poplars in central Maine.
- S. E. Mullen (June 8): Several areas of woodland in Cumberland County, southwestern Maine, are defoliated from 50 to 75 percent.
- New Hampshire. J. G. Conklin (June 24): Has been very abundant throughout the State. Widespread defoliation observed in towns bordering the Connecticut River and along the eastern border of the State.
- Vermont. H. L. Bailey (June 29): Causing severe or complete defoliation, particularly in sugar maple orchards over the State generally. The first cocoons were observed on June 10.
- Massachusetts. A. I. Bourne (June 23): This caterpillar is again abundant. There is no evidence of any reduction in numbers from last year.
- W. W. Bancroft (June 13): Defoliation is noticeable in several towns west of the Connecticut River.
- C. W. Cole (June 19): Infestation of maple and oak is heavy in the Mount Toby Reservation in Franklin County, west of the Connecticut River. The population is 50 percent greater than in 1936.
- Connecticut. B. H. Walden (June): This insect is occurring locally; probably less abundant than in 1936.
- New York. W. E. Blauvelt (June): Abundant in many localities throughout the State, particularly in the Catskills, and has caused rather extensive defoliation of maples.
- J. V. Schaffner Jr. (June 20): In Essex County, large areas of forest are defoliated, defoliation extending well up the mountain sides. The growth is largely poplar and paper birch.
- Pennsylvania. W. H. Hanley (June 7): Severe defoliation of maple, ash, and linden has occurred in Wayne County, in northeastern Pennsylvania.
- Michigan. R. Hutson (June 22): The forest tent caterpillar is nearly full grown in the northern part of the southern peninsula.
- Minnesota. L. W. Orr (June 10): The outbreak this year in the northern and northeastern parts of the State is not so severe as in 1936, but is very great in areas where this is the first or second year of complete defoliation. The young larvae appeared from May 5 to 10, but were retarded by cool, rainy weather. They are now developing rapidly, most of them being in the fourth and fifth instars.



GREEN MAPLE WORMS (Graptolitha spp.)

Vermont. H. L. Bailey (June 29): Very abundant in swampy area at the mouth of the Lamoille River, Chittenden County, in northwestern Vermont. Soft maple, swamp oak, ash, willow, and other trees are being defoliated. G. antennata Walk. and G. laticinerea Grote are probably represented. Wide variation in the size of the larvae was noted on June 10.

GYPSY MOTH (Porthetria dispar L.)

Maine. F. H. Lathrop (June 22): Larvae are unusually abundant in woodlands in southwestern Maine. Drifting larvae caused much concern to apple growers, especially in young orchards. Carabus auratus L., predacious on the gypsy moth, occurs commonly in gardens in and near Orono. Orono is out of the area of severe gypsy moth infestation, therefore the occurrence of this carabid is interesting.

H. B. Peirson (June 1): Heavy infestation is occurring in southern Maine.

A. F. Burgess (May): Egg clusters started to hatch in the Bangor district the middle of May. The first hatching at Portland was noted on May 16 and by the 18th larvae were leaving the egg clusters.

New Hampshire. A. F. Burgess (May): Hatching at Quincy, Grafton County, where the first hatch was noted on May 14.

Massachusetts. A. I. Bourne (June 23): Causing extensive and serious defoliation in many sections of the State. Reports were received late in May from the eastern part of the State that the larvae were appearing in large numbers and beginning to cause serious stripping. It was reported from Bristol County, in the southeastern part of the State, as causing considerable damage to newly set fruit of peach.

A. F. Burgess (May): The earliest observations of hatching of gypsy moth eggs were made at Billerica on May 5. The initial hatching at Ipswich was noted on May 10, and hatching was rather general in the Cape Cod section by May 12. Larval hatch has been reported as very heavy in the Middleboro district.

SATIN MOTH (Stilpnotia salicis L.)

Maine. H. B. Peirson (June 15): Very abundant on poplars in central and southern Maine. Besides stripping trees the larvae causing complaints by crawling into houses.

Connecticut. P. A. Stanley (June 7): Willow and poplar in Bridgeport and Stratford are noticeably defoliated.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

District of Columbia. J. A. Hyslop (June 30): Numerous calls are being received for methods of control on evergreens.



Tennessee. G. M. Bentley (June): Less abundant than it was last year.

Mississippi. C. Lyle (June 10): Collected on cedar at Picayune and junipers at Hattiesburg.

Texas. F. L. Thomas (June 22): This insect is abundant and is causing injury to *amborvitae* at College Station on June 15. On June 19 it was reported as causing injury in Wharton County in southern Texas.

#### ELM

##### ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

Massachusetts. E. P. Felt (June 23): Eggs have been reported as unusually abundant in the Pittsfield district.

Maryland. E. N. Cory (May 27): Adults collected at Ellicott City.

Ohio. T. H. Parks (June 24): The first generation of larvae began hatching early this month and have already severely injured English elms in some parts of Columbus. American elms have not been injured.

Indiana. J. J. Davis (June 26): Full-grown larvae and pupae are very abundant in the Clarke County State Forest, and only a few small larvae and no adults are being observed. The European elm is severely attacked, whereas the Chinese elm is somewhat less extensively damaged and the American elm only slightly damaged.

Kentucky. W. A. Price (June 1): Eggs are hatching at Lexington.

Idaho. F. Shirck (June 15): This insect has not been seen this year, although for a number of years it has been a major pest of elms in southwestern Idaho.

California. M. S. Morley (June 7): Showing some damage on elms in Kern County.

##### WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Indiana. J. J. Davis (June 25): The elm leaf curl aphid has been abundant in the northern half of the State.

Iowa. C. J. Darke (June 23): Extremely abundant on elm trees throughout most of Iowa.

Missouri. L. Haseman (June 23): Has attracted considerable attention on elms.

Kansas. H. R. Bryson (June 26): Reported as abundant in scattering localities in the northeastern and northwestern parts of the State.

##### EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

New Jersey. J. C. Silver (June 5): An exceedingly heavy infestation on elm in a park at Orange.



Ohio. E. Mendenhall (June 5): Very abundant on elms in towns and cities in central Ohio.

Indiana. J. J. Davis (June 25): Reported abundant on elm in several localities in the northern half of the State.

Michigan. E. I. McDaniel (June 22): This scale is becoming prevalent. Specimens have been received from Battle Creek, Lansing, and Standish. Most of the injury is on small trees growing in ornamental plantings.

#### FIR

##### AN APHID (Dreyfusia piceae Ratz.)

New Jersey. H. J. MacAloney (May): Light infestations were discovered at Somerville and Far Hills on an exotic fir, Abies firma.

#### LARCH

##### LARCH CASEBEARER (Coleophora laricella Hbn.)

New England and New York. J. V. Schaffner Jr. (June 25): In New England and northern New York this insect continues as a serious menace to larch. Throughout the Adirondack section of New York larches show severe browning. In New England the severely browned areas of larch are more or less local, but some injury can be found in practically every stand. Most of the moths issued between June 5 and 14.

Massachusetts. A. I. Bourne (June 23): Very abundant generally and is causing damage in Berkshire County, particularly around Richmond.

Connecticut. B. H. Walden (June): The foliage of many trees in Litchfield County has been browned by this insect.

New York. E. P. Felt (June 22): The larch casebearer has been generally abundant and injurious throughout southeastern New York.

#### LINDEN

##### LINDEN BORER (Saperda vestita Say)

New York. E. P. Felt (June 23): The linden borer has been quite injurious to several large lindens, having a trunk diameter of 2 feet or more, at Great Neck, Long Island. The trees have been badly damaged at the base, in one or two instances almost completely girdled. One borer was found working several inches below the surface of the soil.

#### MAPLE

##### COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana. J. J. Davis (June 25): Has been reported from a number of localities in the northern half of the State.



Illinois. C. L. Metcalf (June 22): Judging from the correspondence, the scale is unusually abundant in the northern part of Illinois.

Michigan. E. I. McDaniel (June 22): Has been reported on maple at Flint and gooseberry at Paw Paw. The egg masses were fully developed on June 11, and some of the eggs had started hatching.

#### MESQUITE

##### AN UNDERWING (Melipotis nigrescens G. & R.)

Arizona. C. D. Lebert (June 23): The insect reported on page 197 of the Insect Pest Survey Bulletin dated June 1, 1937, has now been identified as the above species.

#### PINE

##### EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

New York and New England. E. P. Felt (June 22): This moth is becoming locally abundant and injurious in southwestern New England and southeastern New York.

Ohio. A. D. Taylor (June 23): Specimens collected from mugho pine in Cleveland. (Det. by C. Heinrich.)

##### A PYRALID (Tetralopha melanogrammos Zell.)

New Jersey. F. A. Soraci (June 24): A light infestation on white pine at Ramsey, Bergen County, and at Summit, Union County. Larvae appear to be full grown.

##### A PINE ENGRAVER (Ips oregoni Eich.)

Montana. J. C. Evenden (June 18): A severe infestation on ponderosa pine in the Rocky Boy Indian Reservation. Groups of trees, ranging from reproduction to mature trees, were killed during the last year.

##### A SAWFLY (Neodiprion sp.)

Massachusetts. J. V. Schaffner Jr. (June 25): Outbreaks occurred in many red pine plantations in Middlesex and Worcester Counties and in at least one natural stand of red pine. Larvae were full grown and spinning cocoons on June 12.

#### SPRUCE

##### EASTERN SPRUCE BEETLE (Dendroctonus piceaperda Hopk.)

Vermont. J. V. Schaffner Jr. (June 19): In the Green Mountain National Forest near Rochester, large areas of overmature spruce are seriously infested. Most adults had issued from hibernation and are making new galleries.



and laying eggs. A few overwintered larvae are transforming to beetles. New pitch tubes and borings were very noticeable, particularly on the slopes.

A SAWFLY (Pachynematus sp.)

Maine. H. B. Peirson (June 1): Larvae are very abundant in places in Kennebec County feeding especially on new foliage, and later on old foliage. The insect is found especially on young growth. Ovipositing from May 28 to June 6.

EUROPEAN SPRUCE SAWFLY (Diprion polytomum Htg.)

Connecticut. H. J. MacAloney (May): Observations made during May at Orange indicate a marked reduction in infestation from that of 1936.

New Jersey. H. J. MacAloney (May): On May 18 and 19 first instar larvae were taken at Far Hills and Somerville. This is believed to be the first record of this sawfly in New Jersey. The infestation was light at both places.

SPRUCE NEEDLE MINER (Taniva albolineana Kearf.)

Pennsylvania. R. M. Baker (June): Spruce leaf miners are numerous in Allegheny, Butler, and Westmoreland Counties.

Idaho. H. J. Rust (June 11): Adults reared from infested spruce on the Kaniksu National Forest, in Boundary County, have been identified as the above species. This is the first record of this insect in this forest.

WILLOW

EUROPEAN WILLOW LEAF BEETLE (Plagioder a versicolora Laich.)

Vermont. H. L. Bailey (June 29): Very abundant on willow in Charlotte, Ferrisburg, and other Champlain Valley towns of Chittenden and Addison Counties. A large part of the foliage was skeletonized on June 18.

New York. B. F. Maker (June 25): About 70 willows at North Roslyn heavily infested.

New Jersey. C. W. Collins (June 22): Causing noticeable injury to foliage of willow on streets of Livingston, Pluckemin, and Somerville.

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

Maryland. E. N. Cory (May 26): A heavy infestation is occurring on willow at Riverdale.

Indiana. J. J. Davis (June 25): This caterpillar was reported as defoliating willow at Auburn and LaFayette early in June.



Iowa. H. E. Jaques (June 23): This caterpillar is again defoliating willow and elm in Dickinson County.

## COTTON INSECTS

### BOLL WEEVIL (~~Anthonomus~~ Anthonomus grandis Boh.)

South Carolina. F. Sherman and W. C. Nettles (June 21): Early season abundance is much higher than usual. Emergence in hibernation cages at Clemson has averaged 8.75.

South Carolina. F. F. Bondy and C. F. Rainwater (June 5): In Florence County weevils are numerous in fields near the woods. (June 19): Practically every field has some boll weevils. Although several moppings have been made, some fields still contain enough weevils to do damage. (June 26): Weevils are still emerging from hibernation. Nearly twice as many emerged from the hibernation cages during June 1937 as in any June during the last 6 years. In some of the fields 25 percent of the squares are infested.

Florida. H. C. Young, J. T. Roy, and K. H. Smith (June 19): In Alachua County in 14 fields of Sea Island cotton that had been treated, square infestation ranged from 0 to 31 percent, averaging 8.4 percent. In seven untreated fields the square infestation ranged from 2.2 to 23.7 percent, averaging 8.7 percent. (June 26): The infestation in the same fields was slightly less than during the previous week.

Georgia. P. M. Gilmer, P. A. Glick, W. L. Lowry, and K. P. Conradi (May 29): Weevil infestation throughout southern and eastern Georgia is probably the lightest in the history of the weevil. (June 19): In most of the fields the infestation does not exceed 5 percent.

Mississippi. C. Lyle (June 24): Reports from various parts of the State indicate that the infestation is considerably higher than it was at the same date last year, the average infestation being  $7\frac{1}{2}$  percent, as compared with 2 percent last year.

E. W. Dunnam and J. C. Clark (June 12): Infestation in Washington County is lighter than last season and about equal to that of 1935.

G. D. Green and K. E. McCoy (June 26): Square infestation in three fields examined in Oktibbeha County averaged 15 percent, as compared to 0.7 percent on same date in 1936, 19 percent 1935, and 9 percent in 1934.

Louisiana. C. O. Eddy (June 25): Infestation around Baton Rouge is increasing. The highest infestation is 9 percent. Control operations have started in central Louisiana.

R. C. Gainé and assistants (June 26): At Tallulah total emergence in hibernation cage to date is about 12 percent, as compared with 18 percent in 1932 and .10 percent in 1935 and .17 percent in 1936. Square infestation ranged from 0 to 8.5 percent, averaging 2.0 percent in untreated field plots.



Oklahoma. F. A. Fenton (June 21): In McCurtain and Choctaw Counties, in southeastern Oklahoma, the infestation is serious, averaging over 10 percent.

Texas. R. W. Moreland and A. B. Beavers (June 19): The emergence from the hibernation cages at College Station is 6.3 percent to date. In 1936 the emergence was 2.4 percent and was completed by June 20. The square infestation in upland fields ranged from 11 to 51 percent. The high infestation is due to the fact that few squares were formed, because of previous thrips injury.

Texas. K. P. Ewing, R. L. McGarr, et al. (June 12): In the Lavaca River bottom of Jackson County the average weevil infestation was 25 percent. Boll weevil infestation is higher this year at this time in Calhoun County than at the same time in the past 5 years. (June 26): There was considerable increase in weevil infestation in Calhoun County and, in general, the infestation this year is higher than during any recent year. There was also an increase in infestation in Jackson County and in some fields practically 100 percent of the squares are punctured.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

South Carolina. F. F. Bondy and C. F. Rainwater (June 26): A few have been found in Florence County but no damage was caused.

Georgia. P. M. Gilmer, P. A. Glick, W. L. Lowry, and K. P. Conradi (June 19): Hoppers are present in all fields in southern Georgia but the damage is comparatively small.

Mississippi. C. Lyle (June 24): Flea hopper has been observed on cotton in scattered localities, but the damage is not serious.

G. D. Green and K. E. McCoy (June 12): In Oktibbeha County hoppers are more numerous than during the last 3 years. (June 19): The hoppers are decreasing.

Louisiana. R. C. Gaines and assistants. (June 26): In Madison Parish a total of 31 flea hoppers were found on 14 plantations after 2,200 sweeps. No damage is being caused.

Texas. F. L. Thomas (June 26): Damage by cotton flea hoppers is attracting more attention and is more widespread than the damage caused by the boll weevil. In central Texas adults have produced an increase in the nymph population of 70 to 100 percent during the last week. The infestation is heavier in the bottomland fields. None of the upland fields examined in the sandy post oak area had sufficient infestation to justify control measures.

R. W. Moreland, A. B. Beavers, and H. T. Vanderford (June 19): In upland cotton in Burleson and Brazos Counties an average of 2.8 hoppers per 100 terminal buds was found.

K. P. Ewing, R. L. McGarr, et al. (June 26): In Calhoun County an average of 104 flea hoppers per 100 terminal buds was found. This is an increase



of 41 percent over the previous week in flea hopper population. Damage was caused in many fields.

RAPID PLANT BUG (Adelphocoris rapidus Say)

Florida. H. C. Young, J. T. Roy, and K. H. Smith (June 26): In Alachua County A. rapidus has been found to be present in all cotton fields examined and in sufficient numbers to be causing considerable damage in some fields.

Mississippi. G. L. Bond (June 24): This plant bug was collected from cotton at Lucedale, southeastern Mississippi, on June 12.

Louisiana. R. C. Gaines and assistants (June 26): In 2,200 sweeps on 14 plantations in Madison Parish 28 adults and 20 nymphs were found.

BEET ARMYWORM (Laphygma frugiperda S. & A.)

General. T. P. Cassidy and T. C. Barber (May): This insect has again caused considerable damage to cotton in Arizona. This is the third year in succession that seedling cotton has been damaged and it appears that it is becoming an important local pest. The most extensive outbreak and severe injury occurred in 1935 in the main cotton sections of Arizona, and in the irrigated sections of New Mexico and west Texas. The present outbreak ranks between that of 1935 and 1936, the damage being greater than 1936 but considerably less than in 1935. While the insects were generally distributed over the Salt River and Yuma Valleys this year they were most abundant in the Buckeye area.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas. K. P. Ewing, R. L. McGarr, et al. (June 5): The first appearance in southern Texas this year was about 2 weeks later than last year. (June 9): First leaf worms were found near Port Lavaca, Calhoun County. (June 19): Found in many fields in Calhoun County but no serious infestation or damage was caused. Worms were reported on this date from Jim Wells County.

THRIPS (Thysanoptera)

South Carolina. F. Sherman and W. E. Nettles (June 21): Considerable damage has been done to young cotton. A month ago damage was chiefly toward the coast, but now it is chiefly in the Piedmont. Injury is being outgrown.

F. F. Bondy and C. F. Rainwater (June 5): Thrips are numerous in Florence County and are doing some damage. (June 26): Thrips have just about left the cotton.

Mississippi. E. W. Dunnam and J. C. Clark (June 5): In Washington County thrips are causing some damage to cotton in almost all fields, but the damage is not as pronounced as it was last season.

G. D. Green (June 19): In Oktibbeha County considerable damage has been caused but plants are recovering.



Louisiana. S. S. Sharp (June 25): Echinothrips americanus Morg. occurred in destructive numbers in late spring cotton and soybeans in the insectary at Baton Rouge. This thrips first appeared in the insectary last summer and has confined its attack to the two hosts mentioned. It has not been found out of doors, even in the surrounding fields.

Texas. F. L. Thomas (June 5): Dry weather prevails in part of central Texas and thrips injury is severe in most fields, especially on the heavy soils.

Texas. R. W. Moreland, A. B. Beavers (June 19): Because of thrips damage a large number of the cotton plants examined in Burleson and Brazos Counties contained no squares.

## INSECTS AFFECTING GREENHOUSE AND ORNAMENTAL PLANTS

### EIGHT-SPOTTED FORESTER (Alypia octomaculata F.)

Kansas. H. R. Bryson (June 23): The largest population of moths that has been seen for several years was observed this spring. The larvae are injuring Virginia creeper, wild grape, and cultivated grape in northeastern Kansas.

### COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Arizona. C. D. Lebert (June 10): A heavy infestation was found on Pittosporum tobira, which is common in Phoenix. This planting has been clean since 1933. There are no Vedalias present.

### GLADIOLUS

#### GLADIOLUS THRIPS (Taeniothrips simplex Morison)

Florida. J. R. Watson (June 25): A heavy infestation of this thrips developed in Manatee County late in May.

### IRIS

#### IRIS BORER (Macronoctua onusta Grote)

Ohio. E. W. Mendenhall (June 28): The iris borer is abundant in old plantings of iris throughout the State.

### JUNIPER

#### A PYRALID (Herculia intermedialis Walk.)

New York. R. D. Glasgow (June 23): Young junipers near Poughkeepsie have been severely damaged by these caterpillars. This is the first record of the occurrence of this insect on juniper, so far as we know.



LARKSPUR

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Connecticut. W. E. Britton (June 23): Shoots of larkspur with the leaves curled by this mite have been received from Middlebury and Woodbury, and two lots from Hamden.

MUGHO PINE

INTRODUCED PINE SAWFLY (Diprion simile Htg.)

Michigan. E. I. McDaniel (June 22): Has appeared in unusual numbers throughout the eastern part of the State and is causing serious injury to mugho pine in nurseries and ornamental plantings.

PHLOX

PHLOX PLANT BUG (Lopidea davisi Knight)

Maryland. E. N. Cory (June 22): Doing considerable damage to phlox at College Park.

RHODODENDRON

RHODODENDRON LACEBUG (Stephanitis rhododendri Horv.)

New York. R. E. Horsey (June 22): Wingless young are numerous and feeding on old leaves of rhododendron at Rochester.

ROSE

ROSE SAWFLY (Caliroa aethiops F.)

New Jersey. J. C. Silver (June 5): Causing severe damage in Essex County.

Indiana. J. J. Davis (June 25): Has been rather abundant throughout the State since June 1.

Kansas. H. R. Bryson (June 23): Larvae caused considerable injury to rose late in June, but as a whole the insect is less abundant than in some years.

YEW

BLACK VINE WEEVIL (Brachyrhinus sulcatus F.)

Connecticut. J. P. Johnson (June 10): Abundant in a localized area in Greenwich, attacking the roots of Taxus cuspidata. A few plants died and others are in poor condition.



INSECTS ATTACKING MAN AND  
DOMESTIC ANIMALS

MAN

SAND FLIES (Culicoides spp.)

Maine. H. B. Peirson (June 11): Punkies, or no-se-ums, are appearing in great numbers in the vicinity of Augusta.

Georgia. J. B. Hull (May): The number of sandflies near the marshes at Savannah has gradually decreased during the month. The emergence of U. canithorax Hoff. is almost over, and C. dovei Hall is beginning to emerge.

Florida. J. B. Hull (May): During the latter part of May, particularly since May 24, several complaints have been received from residents along the Indian River, the downtown district of Indian River City, and from Moravilla. Residents of Fort Pierce state that sand flies were worse than at any other time, except in July 1936.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Washington, D. C. F. C. Bishopp (June 24): The American dog tick has become generally abundant over the eastern part of the country. A few cases of Rocky Mountain spotted fever undoubtedly transmitted by this tick have occurred in this vicinity recently.

BLACK WIDOW SPIDER (Lactrodectus mactans F.)

North Dakota. J. A. Munro (June 21): A female spider was captured in a house in Nelson County. This is apparently the first record of the occurrence of this spider in the northeastern section of the State.

CATTLE

SCREWORM (Cochliomyia americana C. & P.)

United States. W. E. Dove (June 30): For the 4-week period ended June 18, 4,219 infestations of screwworms were reported from the peninsular section of Florida, among 432,890 animals. In the southeastern counties of Georgia 134 cases were reported, among 31,371 animals. In the southwestern States 82 cases were reported in the river valleys of southern Arizona, and 1,009 cases were reported from the southeastern section of New Mexico. In Texas 8,072 cases were reported from almost two and one-half million animals. The distribution extended from the coast as far north as Wichita Falls and Lubbock. Small numbers of cases occurred throughout the western half of the State. The highest incidence occurred among sheep in Val Verde, Pecos, Sutton, and adjoining counties, where 1,263 cases were reported in the mouths of animals following the eating of prickly pear (cactus). In Florida and Texas more cases resulted in the navels of newly born animals than from any other cause. In Florida there were 2,611 and in Texas 3,140 such infestations.



HORN FLY (Haematobia irritans L.)

Missouri. L. Haseman (June 23): Since the middle of June there has been a very serious outbreak in central Missouri. Animals are covered with flies in many instances.

Texas. E. W. Laake (June 17): Eighty head of cattle at a dairy near Dallas averaged at least 50 horn flies per animal. One animal carried an infestation of approximately 2,000 flies.

STABLEFLY (Stomoxys calcitrans L.)

Missouri. L. Haseman (June 23): There has been a serious outbreak in central Missouri since the middle of June.

Kansas. H. R. Bryson (June 26): This insect is abundant, even annoying human beings.

HORSES

DEER FLIES (Chrysops spp.)

Delaware. L. A. Stearns (June): C. plangens Wied. reported as abundant and annoying in New Castle County on May 31, and C. flavidus Wied. and C. callidus O. S. were abundant and annoying on June 7.

Utah. G. F. Knowlton (June 9): C. discalis Will. is abundant and annoying to livestock and man in the meadows in Boxelder County. . .

WINTER TICK (Dermacentor albipictus Pack.)

North Dakota. J. A. Munro (June 22): A few stockmen in the southwestern part of the State reported that ticks are attacking horses. This tick is reported to have caused the death of an elk in Richland County. The veterinarian stated that the ticks were so abundant on the dead animal that it was practically impossible to place a finger on its body without touching one or more ticks.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

AN ANT (Wasmannia auropunctata Roger)

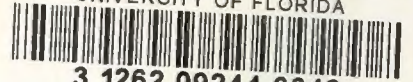
Florida. W. V. King (May 4): Found entering houses and causing annoyance in Orlando. (Det. by R. A. Cushman.)

AN ANOBIID (Platybregmus canadensis Fisher)

New York. R. W. Leiby (June 17): Reported as making basswood floors of a house at Cameron Mills, Steuben County, like a sponge by its feeding. On some days as many as half a teacup full of beetles were swept up. (Det. by W. S. Fisher.)



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