THE INSECT PEST SURVEY BULLETIN

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

Volume 5 April 1, 1925 Number 1

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

Collaborators of the United States Department of Agriculture
acting as Reporters for the Insect Pest Survey

Alabama	Dr. J. M. Robinson, Dept. of Entomology and Zoology, Alabama Polytechnic Institute, Auburn.
Arizona	Dr. Oscar Bartlett, State Entomologist, Phoenix.
Arkansas	Mr. W. J. Baerg, Entomologist, Agricultural Experiment Station, Fayetteville.
California	Dr. W. B. Herms, Head of Division of Entomology and Parasitology, University of California, Berkeley.
	Mr. H. S. Smith, Entomologist, Citrus Experiment Station, Riverside.
	Mr. Theodore Urbahns, Department of Agriculture, Sacramento.
Colorado	Dr. C. P. Gillette, State Entomologist, Agricultural Experiment Station, Fort Collins.
Connecticut	Dr. W. E. Britton, State Entomologist, Agricultural Experiment Station, New Haven.
Delaware	Prof. C. O. Houghton, Biologist, Agricultural Experiment Station, Newark.
Florida	Dr. Wilmon Newell, Plant Commissioner, State Plant Board, Gainesville.
Georgia	Mr. Haliard De La Patelle, Entomologist, Georgia State Board of Entomology, Atlanta.
Idaho	Mr. Claude Wakeland, Experiment Station Entomologist, Box 37, Parma.
Illinois	Dr. W. P. Flint, Entomologist, State Natural History Survey, Urbana.
Indiana	Prof. J. J. Davis, Entomologist, Purdue University, LaFayette.
Iowa	Dr. Carl J. Drake, Department of Zoology and Entomology, Iowa State College, Ames.
Kansas	Prof. J. E. McColloch, Entomologist, Agricultural Experiment Station, Manhattan.
	Dr. H. B. Hungerford, Head of Department of Entomology, University of Kansas, Lawrence.
Kentucky	Prof. H. German, Entomologist, Agricultural Experiment Station, Lexington.
Louisiana	Dr. W. E. Hinds, Entomologist, Agricultural and Home Economics, Baton Rouge.
Maine	Dr. E. M. Patch, Entomologist, Agricultural Experiment Station, Orono.
Maryland	Prof. E. N. Cory, State Entomologist, Maryland University, College Park.
Massachusetts	Dr. H. T. Fernald, Entomologist, Agricultural Experiment Station, Amherst.
Michigan	Dr. R. H. Pettit, Entomologist, Agricultural Experiment Station, East Lansing.
Minnesota	Prof. A. G. Ruggles, State Entomologist, University Farm, St.Paul.
Mississippi	Prof. R. W. Harned, Entomologist, State Plant Board, Agricultural College.
Missouri	Dr. L. Haseman, Entomologist, Agricultural Experiment Station, Columbia.
Montana	Prof. R. A. Cooley, State Entomologist, Agricultural Experiment Station, Bozeman.

Nebraska	Prof. M. H. Swenk, State Entomologist, University of Nebraska, Lincoln.
	Mr. Don B. Whelan, Department of Entomology, University of Nebraska, Lincoln.
Nevada	Prof. C. W. Creel, Entomologist, University of Nevada, Reno.
New Hampshire	Prof. W. C. O'Kane, Entomologist, Agricultural Experiment Station, Durham.
New Jersey	Dr. T. J. Headlee, State Entomologist, Agricultural Experiment Station, New Brunswick.
	Mr. Harry B. Weiss, Chief of Bureau of Statistics and Inspection, Department of Agriculture, Trenton.
New York	Dr. E. P. Felt, State Entomologist, University of the State of New York, Albany.
	Prof. C. R. Crosby, Extension Entomologist, Cornell University, Ithaca.
	Mr. P. J. Parrott, Entomologist, Agricultural Experiment Station, Geneva.
North Carolina	Prof. F. Sherman, Chief in Entomology, State Department of Agriculture, Raleigh.
North Dakota	Dr. R. L. Webster, Agricultural Experiment Station, Agricultural College.
Ohio	Prof. H. A. Gossard, Entomologist, Agricultural Experiment Station, Wooster.
	Dr. Herbert Osborn, Entomologist, Ohio State University, Columbus.
	Dr. R. C. Osburn, Entomologist, Ohio State University, Columbus.
Oklahoma	Prof. C. E. Sanborn, Entomologist, Agricultural Experiment Station, Stillwater.
	Mr. E. E. Scholl, Agricultural and Mechanical College, Stillwater.
Oregon	Mr. Don C. Moto, Oregon Agricultural College, Corvallis.
Pennsylvania	Mr. C. H. Hadley, Director, Bureau of Plant Industry, State Department of Agriculture, Harrisburg.
Rhode Island	Dr. A. E. Stene, Entomologist, State Board of Agriculture, Kingston.
South Carolina	Mr. Frank H. Lathrop, State Entomologist, Clemson Agricultural College, Clemson.
South Dakota	Prof. H. C. Severin, State Entomologist, Agricultural Experiment Station, Brookings.
Tennessee	Prof. G. M. Bentley, State Entomologist and Plant Pathologist, State Board of Agriculture, Knoxville.
Texas	Mr. F. L. Thomas, Agricultural Experiment Station, College Station.
Virginia	Prof. W. J. Schoene, State Entomologist, Crop Pest Commission, Blacksburg.
	Mr. Herbert Spencer, Virginia Truck Experiment Station, Norfolk.
West Virginia	Prof. W. E. Rumsey, State Entomologist, Agricultural Experiment Station, Morgantown.
	Prof. L. M. Peairs, Entomologist, Agricultural Experiment Station, Morgantown.

Wisconsin	Prof. S. B. Fracker, State Entomologist, State Department of Agriculture, Madison.
	Prof. H. F. Wilson, Entomologist, University of Wisconsin, Madison.
Wyoming	Mr. C. L. Corkins, Agricultural Experiment Station, Laramie.

INSECT PEST SURVEY BULLETIN

Vol. 5 April 1, 1925 No. 1

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES

FOR THE PERIOD FROM NOVEMBER 1, 1924, to APRIL 1, 1925

With this number the Survey opens the fifth Volume of its Bulletin. We note with extreme gratification the rapid fruition of our efforts to standardize methods of estimating insect abundance for Survey work.

In this initial number of the volume is a very extensive paper tabulating minutely observations on the abundance of grasshoppers under varying meteorological conditions. There is also a detailed estimate on the relative abundance of the Hessian fly over the southern Middle Atlantic States. Under the San Jose scale is given the results of a very definite count made in connection with investigations of the effect of severe winter temperatures on this insect in Missouri. Further on is the cotton boll weevil count made in Louisiana, and a few pages beyond this a report on very definite estimates of the damage done by the sugarcane borer. Thus on, throughout the Bulletin, can be observed a decided difference in the type of note to that recorded in Volume 1, when the Survey was just starting its work and feeling its way for a better method of procedure.

The general feeling among entomologists that the suggestion made in launching the Insect Pest Survey that its ultimate aim should be entomological forecasting seems to have changed from a rather skeptical tolerance to an active interest. This is evidenced by the many papers that have appeared during the last three years attempting the correlation of meteorological factors with insect abundance. These correlations, of course, would be wasted effort if there was not the hope that they might lead to an interpretation of the effect of environmental factors on insect development which in turn might lead eventually to a forecasting of the probable future development of a given pest.

The grasshopper situation in the Southwest is threatening, despite newspaper reports to the effect that the grasshopper eggs had been killed by cold weather.

The Hessian fly situation as a whole is not serious. Over the Middle Atlantic States fall counts show a decided decrease over 1923. In the Middle and Western States late planting campaigns seem to have been extremely successful.

The chinch bug situation is generally satisfactory. Reports of decided decrease in numbers are being received from practically the entire belt.

The green bug has not yet given any evidence of being a dangerous pest this spring.

The army cutworm is reported as being very abundant in south central Kansas, northwestern Oklahoma, western Nebraska, northern Colorado and Wyoming. How serious this outbreak will be has not yet been intimated.

Reports from Ohio, Illinois, Missouri, and Idaho indicate that unusually low temperatures during the winter produced a very high mortality of the San Jose scale.

The citrus aphid (Aphis spiraecola Patch) has appeared in threatening numbers in the Orlando section of Florida, considerably north of the region heavily infested last year.

The Australian tomato weevil is proving a very serious pest to turnips in southern Mississippi this spring.

The celery leaf-tyer is developing to such an extent in the early truck section about Sanford, Fla., that it may cause considerable damage unless active control measures are undertaken.

The boll weevil situation in Louisiana, as far as hibernation is concerned, is generally favorable. The number of weevils per ton of moss is about the same as last year.

A recent survey covering the lumber sections from Alabama to Texas indicated that approximately 70,000,000 feet of pine timber was dead or dying. Although drought seems to have been the primary cause of this loss, bark-beetles of several species are present in such great numbers as to be an important factor.

Dr. W. E. Britton and Mr. B. I. Shannon submitted independent notes on the collecting of the recently introduced fly Muscina pascuorum Meig. in Connecticut, Maryland, and Virginia.

MISCELLANEOUS FEEDERS

GRASSHOPPERS (Acridiidae)

Missouri

L. Haseman (March 18): Not threatening in Missouri.

Texas

(Dispatch received from Fort Worth, Texas, February 5 and published in The Star, Washington, D. C.): Grasshoppers, which for the last four years have eaten up thousands of acres of cotton and grain and have even damaged trees in West Texas, have finally been eliminated by the unprecedented cold weather of this winter. From all sections come reports that the grasshopper eggs have been killed by the 30-day freeze.

Monthly Letter, Bureau of Entomology, No. 130 (February): C. H. Gable, of the San Antonio laboratory, conducted a scouting expedition during the week of February 2 for the purpose of determining the grasshopper situation in Brown and McCulloch Counties. He found that although reports had been circulated to the effect that most of the eggs had been killed, more than 90 per cent of them were still in hatchable condition, and there were strong indications of serious trouble in that part of the State again this year. Later reports regarding the grasshopper situation in northern Texas are of a similar character.

F. L. Thomas (March 26): Recently hatched in a field near College Station.

Montana

A Summary of the Work Done by the Grasshopper Laboratories as Outlined at the Conference at Winnipeg, follows;

Climatological Factors

Observations of the following weather factors were taken hourly and sometimes half-hourly. These factors were temperature at four feet above the ground, relative humidity, barometric pressure, sky, and wind velocity. The following results were obtained from averaging the number of grasshoppers feeding and the weather factors for each hour. It was utterly impossible to average wind velocity and clearness of sky because they are not given numerically.

(a) Result of work done at Billings, Montana, 1923:
An average day showing the influence of weather factors on grasshopper feeding:

Hour	Average No. feeding	Average temp.	Average humid.	Average bar. P.	Hour	Average No. feeding	Aver. temp.	Aver. humid	Aver. bar. P.
6-7	13	64.3	80.8	26.74	12-1	78	80.8	56.1	26.63
7-8	37	67.7	76.2	26.37	1-2	70	83.6	51.5	26.60
8-9	71	71.3	70.9	26.75	2-3	77	83.7	51.7	26.48
9-10	118	74.0	66.0	26.74	3-4	70	83.5	50.3	26.40
10-11	105	77.0	60.5	26.65	4-5	40	83.2	51.1	26.54
11-12	79	78.8	58.3	26.65	5-6	12	80.6	54.3	26.53

(b) Result of work done at Billings, Montana, 1924:
An average day showing the influence of weather factors on grasshopper feeding:

Time	Average No. feeding	Average temp.	Average Rel. humid.	Time	Average No. feeding	Average temp.	Average Rel. hum
6:00-6:30	71	59	77	12:00-12:30	179	80	38
6:30-7:00	190	60	68	12:30-1:00	205	80	39
7:00-7:30	135	62	65	1:00-1:30	202	81	35
7:30-8:00	175	63	64	1:30-2:00	171	81	35
8:00-8:30	179	66	58	2:00-2:30	181	82	33
8:30-9:00	207	67	53	2:30-3:00	152	84	32
9:00-9:30	247	69	51	3:00-3:30	114	84	30
9:30-10:00	232	72	49	3:30-4:00	70	84	30
10:00-10:30	218	73	45	4:00-4:30	61	81	32
10:30-11:00	268	75	44	4:30-5:00	46	82	32
11:00-11:30	339	77	41	5:00-5:30	26	81	31
11:30-12:00	291	79	37	5:30-6:00	9	82	38

(c) Result of work done at Havre, Montana, 1924:
An average day showing the influence of weather factors on grasshopper feeding:

Hour	Aver. No. feeding	Aver. temp.	Aver. humid	Aver. bar. P.	Hour	Aver. No. feeding	Aver. temp.	Aver. humid.	Aver. bar. P
6-7	19	56.6	69.0	27.25	12-1	26	72.3	42.7	27.21
7-8	75	60.5	64.1	27.25	1-2	23	72.8	41.3	27.19
8-9	123	64.5	57.0	27.24	2-3	28	74.5	41.0	27.17
9-10	67	68.1	51.1	27.25	3-4	17	75.4	39.1	27.18
10-11	104	69.9	49.6	27.22	4-5	24	75.8	36.5	27.19
11-12	31	72.1	46.7	27.31	5-6	15	74.9	41.8	27.19

(d) Result of work done at Cut Bank, Montana, 1924:
An average day showing the influence of weather factors on grasshopper feeding. The average temperature here differs from the temperatures previously given in that it was taken at crop height, at two feet above ground.

Hour	Average No. feeding	Aver. temp.	Aver. humid	Aver. bar. P.	Hour	Average No. feeding	Aver. temp.	Aver. humid.	Aver. bar. P.
6-7	3	47.3	92.3	26.18	12-1	85	72.7	45.9	26.18
7-8	51	55.8	80.4	26.34	1-2	50	73.6	45.4	26.15
8-9	130	60.9	71.5	26.33	2-3	73	73.0	47.6	26.34
9-10	163	67.0	62.1	26.27	3-4	106	73.0	51.0	26.34
10-11	177	69.6	51.5	26.21	4-5	77	70.5	46.1	26.21
11-12	98	71.9	43.9	26.19	5-6	63	70.6	39.6	26.17

Note: A clear sky with little or no wind seems to form the ideal condition for grasshopper feeding so far as these two factors are concerned. The hoppers will quit feeding during a stiff wind or cloudy weather unless forced by hunger to eat.

****

WHITE GRUBS (Phyllophaga spp.)

Mississippi — W. M. Mingee (March 25): I observed May beetles for the first time this spring in abundance, this P. M. Most of which were Phyllophaga micaus.

Missouri — L. Haseman (March 18): We are certain to have considerable troubl from these insects this year. They are widely distributed over the State.

Nebraska — M. H. Swenk (October, November, and December, 1924): Complaints of injury by white grubs continued to be received in diminishing numbers during September and up to the middle of October, when they abruptly ceased.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Illinois — W. P. Flint (March 11): Hessian fly puparia in volunteer wheat in the vicinity of Urbana, according to T. H. Parks, show nearly 90 per cent parasitism.

Missouri — L. Haseman (March 18): The fly was present in alarming numbers last November in our experimental plats at Springfield (southwestern Missouri) and Maryville (northwestern Missouri), but nowhere else. The rains of last fall helped to retard early seeding but we are likely to have some damage in the above two sections of the State.

Nebraska — M. H. Swenk (October, November, and December, 1924): The date of safe sowing for the Hessian fly was announced for the last Nebraska county on October 6. Many farmers awaited the announced date of safe sowing, and the dry fall held back the germination of the wheat in the earlier sown fields to such an extent that more of the Hessian fly infestation is in the volunteer wheat. In a field in Platte County, examined during the first week in October, volunteer wheat plants were found infested with an average of 5.8 larvae to the plant. (January and February, 1925): So far as this office has been able to learn, the campaign conducted last fall to control the Hessian fly by delaying the sowing of the winter wheat until a safe date was eminently successful. Very good publicity of the operations of the field observation stations, and of the dates of safe sowing as deduced therefrom, was obtained. Up to date only one report has been received of noticeable infestation in wheat fields seeded on or after the announced date of safe sowing. This report comes from eastern Cass County and concerns a light infestation in a neighborhood where local conditions apparently slowed the disappearance of the fall brood of the Hessian fly a few days beyond the average. The prospects are that the fall Hessian fly campaigns of 1923 and 1924 have reduced the Hessian fly from a highly destructive abundance to a normal nonmenacing condition.

Montana

J. R. Parker (March 24): This insect is present in Wibaux, Richland, Dawson, and Roosevelt Counties. Very little field work has been done in regard to ascertaining the intensity of the infestation but according to the County Agents the number of stems infested with "flaxseeds" in some fields runs as high as 30 per cent. Personally I have only been in a few fields and these had already been harvested. However, the number of dwarfed stems and the large number of "flaxseeds" in each of these dwarfed stems lead me to believe that the infestation had been very heavy. Unless weather conditions interfere, I expect we will have serious trouble with the Hessian fly in Montana this year.

GENERAL

(U. S. Laboratory, Carlisle, Pa.) Field survey of the fall generation of the Hessian fly, 1924, eastern wheat growing region:

Locality	No. Fields Examined	Average Infestation 1924	Increase in 1924 over 1923	Decrease in 1924 over 192
SUSQUEHANNA VALLEY AREA		Per cent	Per cent	Per cent
Montoursville	12	0.00		21.46
Danville	12	0.00		11.65
Bloomsburg	9	6.33		6.36
Lewisburg	16	1.22		16.60
Middleburg	12	1.96		7.85
CARLISLE AREA:				
Andersonburg	9	0.00		.66
Carlisle	5	21.27	20.50	
Mt. Holly Springs	5	6.12	4.08	
Boiling Springs	7	2.18		7.32
SOUTHEASTERN PENNSYLVANIA AREA:				
Macungie	12	0.00	0.00	0.00
Nazareth	13	0.00		1.28
Perkasie	11	0.00	0.00	0.00
Lansdale	12	0.00		4.32
West Chester	10	0.00		4.46
Terre Hill	14	0.00	0.00	0.00
Palmyra	9	15.23	6.76	
DELAWARE AND EASTERN SHORE MARYLAND AREA:				
Cambridge	10	0.00	0.00	0.00
Princess Anne	12	0.00	0.00	0.00
Dover	10	0.00	0.00	0.00
Elkton	9	.47	.47	
SOUTHERN PENNSYLVANIA AND NORTHERN MARYLAND AREA:				
Red Lion	7	2.08	2.08	
Fairfield	6	3.00		36.21
Hagerstown	5	11.00	6.83	
New Windsor	8	16.13	16.13	
SHENANDOAH VALLEY AREA:				
Martinsburg	10	.50	.29	
Winchester	9	1.00	1.00	
Woodstock	16	.38		1.42
Harrisonburg	11	0.00		.67
Berryville	12	2.46	1.91	
Charlestown	11	0.00		3.90
Average for entire area		3.04		2.14

CHINCH BUG (Blissus leucopterus Say)

Missouri — L. Haseman (March 18): In Missouri this pest is not threatening, though we may have some local trouble in the southwestern part of the State and perhaps up along the western border next to Kansas.

Nebraska — M. H. Swenk (October, November, and December, 1924): An examination of the chinch bug situation in Thayer County during the third week in November showed the bugs located for wintering in abundance in grass, stubble fields and to some extent in straw piles and cornstalks. The dry fall seems to have been quite favorable for the bugs.

Kansas — J. W. McColloch (March 13): The chinch bug situation is a little more encouraging than at this time last year. There were not quite as many bugs in hibernation as a year ago, and extreme cold weather resulted in a mortality of approximately 25 per cent of the hibernating bugs. During the warm weather of March 5 to 7 the bugs began to emerge from hibernation and to fly to the small grain fields.

GREEN BUG (Toxoptera graminum Rond.)

Nebraska — M. H. Swenk (October, November, and December, 1924): During the first week in November a local outbreak of the spring aphid or "green bug" occurred in a few fields in Phelps County. The aphids started working in spots in the fields, destroying the young wheat, and by the time they were checked by the arrival of cold weather they had destroyed a considerable amount of wheat in some of these fields.

Mississippi — R. W. Harned (March 25): On March 6 H. H. Wedgworth sent in oat plants infested with the spring grain aphid, Toxoptera graminum, from the Branch Experiment Station at Raymond.

GENERAL — G. A. Dean (March 17): I have now received reports on the green bug situation from practically every district, with the exception of northeastern Oklahoma and the extreme western part. We are unable to find any live green bugs in Kansas. Mr. Kelly has just returned from southeastern Kansas, and in the spots where there was some injury done last fall there are no signs of live bugs. Mr. Horton was unable to find any live Toxoptera in southwestern Missouri, or any place where they had done considerable injury last fall. This place gave us more anxiety than any other place, owing to the fact that there was considerable snow on the ground at the time of the low drop in temperature. Mr. Ainslie has been unable to find any live bugs in Tennessee. No live ones have been found in either Illinois or Indiana. Mr. Gable and Mr. Baker have now scouted the entire northern part of Texas, and there is nothing there.

It certainly looks as though we had no reason to believe there is any danger of a green bug outbreak this spring. Personally, I think it one of the most remarkable clean-ups, due to low temperatures, that we have ever experienced in our green bug studies. Mr. Horton wrote me the other day that some one in Oklahoma had reported green bugs in southern Oklahoma. However, we have been unable to get any confirmation, and I doubt very much whether there is any truth in the report.

APHIDS (Aphididae)

Michigan

Eugenia McDaniel (December 5, 1924): On the 20th of November our Mr. Harman, Extension Specialist in insect control, reported a field at Portland as infested with plant lice. These were brought in and sent to Dr. Patch at Orono, Maine, for identification, since in Michigan aphid infestation of grain fields is rather unusual at this season of the year. Dr. Patch reports Macrosiphum granarium and Rhopalosiphum prunifoliae. There really seems to be very little permanent damage done, although the field showed plainly the result of the attack. During the present autumn several other reports of similar attacks have been sent in, although in these cases it has not been possible to collect and identify the material.

Nebraska

M. H. Swenk (October, November, and December, 1924): During the third week in October the English grain aphid appeared abundantly in some wheat fields in Adams County, in company with large numbers of the aphid Geoica squamosa, and the two together caused a considerable amount of slight, scattering injury in the wheat fields of parts of that county before cold weather checked their increase. As late as the third week in November the English grain aphid was reported as abundant on volunteer barley in Dundy County. Another aphid attacking the roots of wheat was the apple-grain aphid. That, in company with Geoica squamosa, was found abundantly in volunteer wheat in Platte County during the second week in October.

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Kansas

J. W. McColloch (March 13): With regard to insect conditions in the State at this time, I might say that the army cutworm has become very abundant in the south-central part of the State. We now have reports of injury to wheat in the following Counties: Harper, Kingman, Reno, Barber, Clark, Kiowa and Russell. This cutworm is also reported to be injuring alfalfa in Harper County, and to be cutting off onion tops in Reno County. I understand that this outbreak also extends through a considerable portion of Oklahoma.

Oklahoma

C. E. Sanborn (February and March): Outbreak similar to that of 1921. Reported in Harper, Woods, Ellis, Woodward, Dewey, Blaine, Custer and Roger Mills Counties. Twenty per cent of crop damaged, as much as 75 per cent in individual fields. Specimens also from Texas and New Mexico.

Nebraska and Colorado

M. H. Swenk (March 26): There is developing an outbreak of the army cutworm, Euxoa auxiliaris, in western Nebraska and northeastern Colorado. The affected area in Nebraska, according to reports to date, includes southeastern Scottsbluff County, eastern Banner County, southern Morrill County, and south into Kimball County. The worms were first reported from Kimball County on February 8 and from northeastern Banner County on February 23. They began to be abundantly active during the second week in March, and at the present time are present in large numbers in some of the fields, assuming their characteristic armyworm habits. I cannot at this time predict how much injury they will do.

Apparently this outbreak extends south at least to Akron, Colo., for the Superintendent of the Field Station of the Bureau of Plant Industry at that place advises me that these cutworms "are to be found in myriads, in all sizes from very small to large, migrating over the surface of the ground, and even found in the house."

From past experiences this abundance of army cutworms will increase during April and the worms will not be over entirely until May 10 to 15. Then there will be a heavy flight of the adult moths during the last week in May and the early part of June, when the moths will occur by the millions around the farm buildings.

Wyoming

R. A. Cooley (March 27): Letter from C. L. Corkins, State Entomologist, Laramie, Wyo., dated March 24, stating that the first insect damage reported is by the western army cutworm which reached him that date.

THE WHEAT-STEM SAWFLY (Cephus pygmaeus L.)
and THE BLACK CEPHID (Trachelus tabidus Fab.)

GENERAL

C. C. Hill (U. S. Entomological Laboratory, Carlisle, Pa.)(March 28): The accompanying tables show the present abundance in certain localities in the East of the two common saw-flies, Tracholus tabidus Fab., and Cephus pygmaeus Linn., which infest wheat in the Eastern United States. The collections of the material upon which the data are based was largely made by H. D. Smith. Both pests are of interest at this time.

Cephus pygmaeus attracts attention because of its occurrence during the last few years in alarming abundance in certain localities in the State of New York (the report of its infestation in that state is left to the New York State Entomologists). This outbreak has been felt as far south as the region of the Susquehanna Valley in Pennsylvania, and in the vicinity of Montoursville it has been sufficiently abundant to attract the attention of farmers. The records for 1924, however, show some decrease over the infestation found in 1923 in this locality.

Trachelus tabidus is of interest because of its comparatively recent introduction into this country from Europe and the possibilities of it becoming a serious pest.

Both pests overlap somewhat in distribution, although at the present time Cephus pygmaeus has its strongest hold in territory north of regions not yet penetrated by Trachelus tabidus. We believe, moreover, that the many negative records included in the report will furnish important data on the dissemination of both species.

The computation of the average percentage of infestation has been limited to the localities in the eastern half of the State of Pennsylvania for the reason that many of the points outside this region lie beyond the present geographical distribution of the species.

INFESTATION OF CEPHUS PYGMAEUS IN CERTAIN LOCALITIES IN THE EASTERN WHEAT GROWING REGION.

No.	Locality	No. tillers Examined	Percentage of Infestation
1.	Cambridge, Md.	296	0.00
2.	New Windsor, Md.	100	0.00
3.	Greensboro, N. C.	481	0.00
4.	Bloomsburg, Pa.	100	2.00
5.	Boiling Springs, Pa.	100	0.00
6.	Danville, Pa.	200	0.55
7.	Fairfield, Pa.	250	0.00
8.	Lewisburg, Pa.	100	1.00
9.	Montoursville, Pa.	216	16.67
10.	Mount Holly Springs, Pa.	651	0.00
11.	Palmyra, Pa.	100	6.00
12.	Pine Grove Furnace, Pa.	442	0.00
13.	Reading, Pa.	1021	1.76
14.	Red Lion, Pa.	242	1.65
15.	Sunbury, Pa.	835	0.00
16.	Washington County, Pa.	1034	0.00
17.	Berryville, Va.	357	0.00
18.	Harrisonburg, Va.	224	0.00
19.	Warrenton, Va.	366	0.00
20.	Winchester, Va.	200	0.00
21.	Woodstock, Va.	302	0.00
22.	Charlestown, W. Va.	170	0.00
23.	Martinsburg, W. Va.	153	0.00
Average of localities in Penna.			2.28

INFESTATION OF TRACHELUS TABIDUS IN CERTAIN LOCALITIES IN THE EASTERN WHEAT GROWING REGION.

No.	Locality	No. tillers Examined	Percentage of Infestation
1.	Cambridge, Md.	296	0.00
2.	New Windsor, Md.	100	2.00
3.	Greensboro, N. C.	481	0.00
4.	Bloomsburg, Pa.	216	0.00

No.	Locality	No. tillers Examined	Percentage of Infestation
5.	Boiling Springs, Pa.	100	1.00
6.	Danville, Pa.	200	2.00
7.	Fairfield, Pa.	250	0.00
8.	Lewisburg, Pa.	100	0.00
9.	Montoursville, Pa.	216	0.00
10.	Mount Holly Springs, Pa.	651	0.77
11.	Pine Grove Furnace, Pa.	442	0.00
12.	Reading, Pa.	1021	1.76
13.	Red Lion, Pa.	242	6.61
14.	Sunbury, Pa.	835	0.00
15.	Washington County, Pa.	1034	0.00
16.	Berryville, Va.	357	0.55
17.	Harrisonburg, Va.	224	0.00
18.	Warrenton, Va.	366	0.55
19.	Winchester, Va.	200	0.00
20.	Woodstock, Va.	302	0.64
21.	Charlestown, W. Va.	170	0.00
22.	Martinsburg, W. Va.	153	0.33
Average of localities in Penna.			1.01

CORN

EUROPEAN CORN BORER (*Pyrausta nubilalis* Huebn.)

Ohio — H. A. Gossard (March 21): Buried specimens of the European corn borer exhibited activity as early as March 10. On this day, which was very warm, they started toward the surface and some of them completed half of the journey upward, though, so far as known, none actually reached the surface.

ARMYWORM (*Cirphis unipuncta* Haw.)

Missouri — L. Haseman (March 18): It is still too early to make definite predictions, though from the past fall's signs we do not expect this pest this spring.

CORN ROOTWORM (*Diabrotica duodecimpunctata* Fab.)

South Carolina — Philip Luginbill (March 10): Adults of *Diabrotica 12-punctata* are very abundant this spring. This would seem to indicate that there may be serious damage to corn this spring. Last year the adults were scarce not only during the spring but the whole year. In fact, we were unable to get a sufficient number for breeding work. Yesterday, in a very short time, we captured 100 beetles. Egg laying has already begun. In fact, many beetles have already deposited their quota and have died. Several of the individuals of each capture are parasitized and it is hoped that a sufficient number of the adults may be obtained for a life history study of this parasite, which apparently is Celatoria.

Missouri

L. Haseman (March 18): We have had an unusual heavy run on complaints about the rootworms this winter in which they refer to last summer's damage. We are expecting trouble over the corn belt of the State again this summer.

ALFALFA

ALFALFA WEEVIL (*Phytonomus posticus* Gyll.)

Idaho

University of Idaho News Letter, Moscow, Vol. XII, No. 2 (February 24): In a few localities in Idaho the belief seems to prevail that the alfalfa weevil has suddenly died out and that no further injury will be done by it. This belief has been occasioned by the fact that in 1924 the amount of damage caused by this pest was much less than in 1923, and it has been formed without a knowledge of the contributing factors of the weevil itself. During the past two years the experiment station entomologist has kept a close check on the development of the alfalfa weevil in southwest Idaho, and the station is in a position to draw a comparison between the two years mentioned. By daily observations and careful counts data were obtained each year which are assembled in the form of a table of comparisons as follows:

Comparison of 1923 and 1924

	1923	1924	Difference (Days)
First worms found.	May 7	May 1	6
Date when injury began to be severe and generally noticeable.	May 23	May 17	6
Date when greatest number of worms occurred in the field.	June 22	May 25	28
Greatest number of worms collected in 100 strokes of the insect net.	5010	7564	
Period during which numbers of worms and amount of injury increased. .	46 days	24 das	22
Time after first spray application until greatest number of worms was reached.	30 days	5 days	25

Climatic conditions for the two years were quite different. A late spring and a cold, wet May and June characterized 1923, while the hot, dry spring and early summer of 1924 are still fresh in the memory of most who were engaged in farming. From the time that worms become numerous enough to cause injury until they have reached their greatest numbers and stopped feeding is the critical period in relation to the amount of damage done. Studying the above table disclosed the fact that the greatest number of worms in 1924 occurred 28 days earlier than in 1923, and that injurious numbers fed on the first crop for 22 days less than in 1923. Instead of fewer weevil than in 1923, there were actually more in the field at one time in 1924, but they attacked the plants at a different stage of growth and fed for a shorter period of time.

In 1923, 30 days elapsed after the first spray was applied until the numbers of worms began to drop off naturally, but a corresponding period of time in 1924 was but 5 days. A spray is effective for approximately 10 days after application when plants are growing normally. This explains why, in southwestern Idaho, a second application was necessary in 1923, but was of little extra benefit in 1924.

In 1923 eggs hatched during the months of May and June, and were present in the field even after the first crop had been cut. In 1924 eggs had practically all hatched by the 25th of May. June, 1923, was so wet and cold that alfalfa grew slowly and weevil larvae also matured slowly. A condition existed, therefore, such that a fewer number of worms, by feeding over a longer period of time, caused more injury than a larger number feeding for a comparatively short time. In 1924 weevil injury was nearly all done by May 25; worms began to cease feeding, and many fields made a certain amount of recovery naturally. The lack of moisture and irrigation water and the intense heat of early May had the effect of hastening the development and feeding of the weevil, of reducing its feeding period and of retarding the growth of the alfalfa. Most of the growth of the alfalfa was made then after feeding abated and after irrigation water was applied more generously, so that plants virtually took a new start.

The years 1921, 1922, and 1923 were quite similar in regard to development of alfalfa weevil and injury caused by it, so they may be taken to represent more nearly a normal condition than 1924. It is safe to assume that conditions in 1925 will more nearly approximate those of the three years first named than those of 1924 and that we may reasonably expect injury from the alfalfa weevil again this season. The entomologist has made examinations in the field since last summer and has found an abundance of live beetles surviving. There are those who believe that the parasitic enemies of the weevil have them under control. Others maintain that the extreme drouth and heat of last summer killed them. The weevil parasite common in Idaho kills the worms before they can transform to beetles, so that either of these suppositions is untenable in the face of evidence that there were an abundance of beetles that entered the winter alive after they were supposed to have been killed by parasites or weather.

The only safe conclusion is that the weevil will be a limiting factor in the production of alfalfa hay in 1925 if weather conditions are favorable for the pest. The only assurance of raising a full crop of hay is to be prepared to control the pest if necessity arises. If one is not already prepared to combat the weevil and plans to fight it this season he must arrange for the early purchase of machinery and supplies, for they cannot often be procured at the time needed. The saving on one crop will pay for labor, equipment and supplies for several years. If control should prove not to be necessary, equipment and supplies do not deteriorate, and can be considered in the form of crop insurance that may not be drawn upon until another season.

Conditions mentioned above are for southwestern Idaho. It is recognized that conditions in the south-central or eastern parts of the State are different.

Claude Wakeland (March 18): Last season the alfalfa weevil went into pupation 28 days earlier than during 1923. A condition was thus created such that recovery of the first crop of alfalfa came about to a considerable extent without control, a condition that has not been previously recorded, I believe. Injury from the weevil was unusually light last season. Many farmers are of the belief that the insect has ceased to be a pest of alfalfa but we have found that the spring conditions are the determining influence so that there is opportunity for very severe damage again this season. Last season was very hot and dry in late April and in May. The previous year was unusually cool and wet during May and June.

CLOVER-SEED CHALCID (Bruchophagus funebris Howard)

Utah — U. S. D. A. Bureau of Agricultural Economics (January 13): "While many growers were not free sellers, a majority of them were. Seeds were active bidders largely because of reports that the crop in Utah did not turn out so well as expected. Shrinkage in that State was heavy because of damage from chalcid fly in the Uinta Basin and frost damage in Millard County."

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

APPLE

APPLE APHID (Aphis pomi DeG.)

Illinois — S. C. Chandler (March 16): Practically all of the apple buds in the Ozark region of southern Illinois in delayed dormant stage. A few aphids observed on the opening buds.

Michigan — L. G. Gentner (March 27): On the 26th of March, while examining twigs of apple, I found that the eggs of the bud-lice were already hatching in considerable numbers. As the buds have not even started to swell, the young lice were forced to feed right through the bark. They seemed to prefer to feed in the vicinity of buds although the punctures were made through the bark itself rather than elsewhere.

Indiana — B. A. Porter (March 31): On account of the abnormally early season, the aphids have been hatching unusually early. The first newly hatched aphid was noted on March 9th. Thus far the rosy aphis has been very scarce, the predominant species being the apple-grain aphis. In general, the apple aphids are not more than moderately abundant, although as usual the infestation is irregular and here and there they are present in threatening numbers.

Missouri — L. Haseman (March 18): Overwintering eggs of the aphis are very abundant on apple, and we are expecting trouble with the different species.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Virginia — W. M. Davidson (February 26): A heavy infestation of sexual forms occurred on apple trees at Vienna in the fall of 1924 and many eggs were deposited on twigs and branches. Unless there is a pronounced winter-kill extensive infestations may be looked for this spring and early summer.

Herbert Spencer (March 13): An infestation by this insect on buds of apple trees was brought to our attention. These aphids seem somewhat more numerous than usual this spring. I have examined a number of twigs and find that most of the aphids are in the first or second instar.

Maryland — E. N. Cory (March 7): This insect was reported attacking apple at College Park, and eggs were also hatching on this date.

Ohio — H. A. Gossard (March 21): Eggs of the apple grain aphid were observed hatching at Wooster on March 10, and at Lisbon on March 12. Aphis eggs, presumably, chiefly of the species just mentioned, are more abundant this spring than usual at Wooster.

ROSY APPLE APHID (Anuraphis roseus Baker)

Virginia — W. J. Schoene (March 16): The first individuals of this species were noted on buds at Blacksburg on March 14.

CODLING MOTH (Carpocapsa pomonella L.)

Missouri — L. Haseman (March 18): Late fall pin worms were unusually numerous last fall, but careful orchard spraying has always given good commercial control here.

FRUIT-TREE LEAF-ROLLER (Cacoecia argyrospila Walk.)

Illinois — W. P. Flint (March 11): Egg masses of this insect, which are abundant in western Illinois, have given almost 100 per cent hatch where kept in the greenhouse.

Idaho — Claude Wakeland (March 18): There has been a decided weather effect on the eggs of the fruit-tree leaf-roller. The severe temperature of last winter is without precedent in this State since fruit raising has become an industry, so we have no past records with which to make comparison. It is certain that the injury from many kinds of insect pests last winter above ground will be comparatively light this season.

TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts — A. I. Bourne (March 25): From such observations as I have been able to make thus far in the immediate vicinity, and from reports from the Eastern part of the State, there is little indication of any let-up in the intensity of the prevalence of the apple tent caterpillar, as judged by the egg masses. If anything, here in this immediate section around the college, it promises to be slightly more abundant than last year.

Connecticut — W. E. Britton (March 24): Throughout the locality of New Haven, Greenwich and Stamford, egg clusters are common, but especially so in Fairfield County.

Illinois — W. P. Flint (March 11): Egg masses of this insect are very abundant in the southern Illinois orchard section. A number of egg masses have been carried through in the greenhouse, and hatched nearly 100 per cent. No parasites were obtained.

Georgia — Oliver I. Snapp and assistants (March 26): Unusually abundant. Some wild cherry trees completely defoliated at Fort Valley, also observed on persimmon.

FALL CANKERWORM (Alsophila pometaria Harris)

Connecticut — W. E. Britton (March 24): At New Haven eggs are very abundant below sticky bands on banded trees on station grounds. Some defoliation last year in New Haven, Greenwich and Stamford.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Nebraska — M. H. Swenk (October, November, and December, 1924): The apple maggot has, as yet, been found doing injury in Nebraska only very infrequently. In December specimens of winter apples showing the characteristic work of this pest were examined, the apples having been grown in Burt County.

FRUIT TREE SERICA (Serica sp.)

Texas — F. L. Thomas (March 26): Specimens received from Karnes City, and requests for information regarding possible injury.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Ohio — H. A. Gossard (March 21): The winter mortality of the San Jose scale seems to have been unusually high in Ohio this season. Counts made in March indicate that in some instances only about 20 per cent of the scales have survived the winter. However, in an orchard in the centfal part of the State, about 40 per cent survived.

Indiana — B. A. Porter (March 31): While much reduced in numbers from previous seasons, the scale is present in sufficient numbers to be still an important problem. The abnormally long period of hot weather in early fall allowed the light infestation which had escaped the previous dormant treatment to make a tremendous increase in numbers. Winter mortality has been the highest that it has been for several years. A few counts are as follows:

Date	Orchard and condition	Live	Dead	Total	% dead
Mar. 12	Young apple, incrusted.	303	726	1029	70.6
13	Young apple, heavily incrusted.	196	849	1045	81.2
23	Old apple, heavy incrustation .	182	826	1008	81.9
Mar. 11	Young apple, recent infestation.	1163	1837	3000	61.4
Jan. 27	Old peach, long-standing infestation.	636	1442	2078	69.4
Mar. 2	Same as above.	422	1608	2030	79.2

In the last orchard mentioned, the mortality in the spring of 1923 was 28 per cent and in 1924 was 57.3 per cent.

Illinois — W. P. Flint (March 11): Several periods of low temperature have occurred in Illinois during the past winter, with temperatures of -22° to -24° F. at points north of Urbana, and correspondingly low temperatures in the southern part of the State. Peach buds were killed in all but the southern counties. These temperatures have caused a high winter mortality of the San Jose scale, about 5 per cent being found alive in the vicinity of Urbana, and 20 to 25 per cent in orchards in the vicinity of Anna.

Missouri — L. Haseman (March 18): Dormant sprays have again put the pest under control, though neglected orchards are badly infested in some sections. The scale situation, however, is very satisfactory in Missouri.

Idaho — Claude Wakeland (March 18): Examined 22,000 scales under the microscope during the past three weeks, coming from widely separated districts of southwestern and southern Idaho, and of this number but 519 were alive. Of the 519 live insects, 399 of them were obtained in an examination of 500 scales on a water sprout below where the snow line had been; so a representative count of San Jose scale under orchard conditions is 120 live insects out of 21,500 examined. The temperature ranged from -24° to -35° on the coldest day of the winter, but there were two other days on which the thermometer registered within two degrees of the low point. All of the live scales have been found in localities where the minimum temperature registered about 24° to 26° F.

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

Idaho — Claude Wakeland (March 18): Eggs of the snowy tree cricket have been killed extensively by cold weather but the percentage of mortality has not yet been determined.

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

Massachusetts — A. I. Bourne (March 25): Owing to the fact that many of the growers gave particular attention to this pest last spring and used the oils as a dormant spray, the pest seems to be slightly less prevalent than a year ago.

Ohio — H. A. Gossard (March 21): Great numbers of the eggs of the European red spider mite were found on the trunks of apple trees in northeastern Ohio.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Missouri — L. Haseman (March 18): Very few complaints of this pest have been received. The paradichlorobenzene remedy is being widely used in Missouri.

ORIENTAL PEACH MOTH (Laspeyresia molesta Busck)

Georgia — Oliver I. Snapp (March 21): At Fort Valley this insect is very scarce in orchards that were moderately heavily infested last summer. We are wondering if the lack of food late in the season in this latitude did not starve out many larvae of the last 1924 generation. The first 1925 spring pupation took place on February 25, and the first adult emerged on March 8.

PEACH TWIG MOTH (Anarsia lineatella Zell.)

California — T. D. Urbahns (March 20): The first larvae of the peach twig-moth were observed active for this season at Atwater. They were just beginning to attack the unfolding leaf buds of peach.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

North Carolina — R. W. Leiby (March 20): First beetles jarred from peach trees March 18 at Aberdeen. This is 19 days earlier than last year, 8 days earlier than in 1923, and 9 days earlier than in 1922. Indications are that winter survival is heavy.

Georgia — Oliver I. Snapp (March 21): The first adult of the season appeared at Fort Valley from hibernation in hibernation experiments on March 4. The peak of appearance of the beetles from hibernation in the Georgia Peach Belt evidently took place on March 19. The maximum temperature for five days during the preceding week was over 85 degrees. The plum curculio is appearing from hibernation earlier than usual this year on account of the earlier season.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia — Oliver I. Snapp (March 21): More abundant than usual at Fort Valley, feeding on peach flowers. In some cases the little peaches are devoured.

TARNISHED PLANT-BUG (Lygus pratensis L.)

Illinois — W. P. Flint (March 9): Adults of this species noted in peach orchards at Anna, Ill., on this date. Temperature above 80° F.

PLUM

WEST INDIAN PEACH SCALE (Aulacaspis pentagona Targ.)

Alabama — J. M. Robinson (March 10): From Spring Hill we have received a plum twig entirely covered with the West Indian peach scale. This insect has been considered along with the San Jose scale as one of the most serious pests of fruit trees in Alabama. However, we do not have definite information to confirm this at the present time.

RUSTY PLUM APHID (Hysteroneura setariae Thomas)

Georgia — Oliver I. Snapp and assistants (March 26): As usual the rusty brown plum aphid is very abundant on plum trees at Fort Valley in home orchards. In some cases this aphid has prevented fruit to set.

Mississippi — W. M. Mingee (March 24): I observed the brown plum aphid on the nation plum trees. Some trees were heavily infested but were being preyed on by the adults and larvae of lady-bugs.

CLOVER MITE (Bryobia praetiosa Koch)

California — T. D. Urbahns (March 15): This mite was hatching in abundance from overwintering eggs on the trees and attacking the unfolding buds of prunes and almonds. Many of the eggs still remained unhatched on the trees at this date.

RASPBERRY

RASPBERRY-CANE BORER (Oberea bimaculata Oliv.)

Missouri — L. Haseman (March 18): At Columbia this little borer has practically ruined some raspberry patches, and while the pest shows signs of very heavy parasitism we may expect trouble from it this summer. It has never caused trouble before in the State, to my knowledge.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Missouri — L. Haseman (March 18): We had a bad season with them last year and they have always gone through the winter safely with us, so we are sure to have a heavy infestation this summer. Our grape growers are turning to grape spraying fast and are including sprays for the leafhoppers.

CUTWORMS (Noctuidae)

California — T. D. Urbahns (March 14): Many complaints of cutworms destroying the unfolding buds of grapes have come from Bakersfield. Probably several species are involved.

PECAN

MAY BEETLES (*Phyllophaga* spp.)

Alabama — J. M. Robinson (March 10): Mr. C. C. Lowder, Secretary and Manager of Title Insurance Company, Mobile, Ala., reports that in a small district in Mobile there is a species of beetle, perhaps one of the May beetles, which defoliates the pecan trees about the first of April, after the pecan trees have made a growth of from four to six inches. The beetles also work on the tender branches, as well as leaves, for about thirty days. They have been recorded as being present and destructive for about four years. They have been sufficiently abundant to prevent the fruiting of the pecan trees.

TWELVE-SPOTTED CUCUMBER BEETLE (*Diabrotica duodecimpunctata* Fab.)

Alabama — J. M. Robinson and W. A. Ruffin (March 2): This insect was defoliating pecan trees in the extreme southern part of our State. At Auburn these beetles are very plentiful at the present time, and are found on various fruit blossoms, as well as on vetch.

CITRUS

CITRUS APHID (*Aphis spiraecola* Patch)

GENERAL STATEMENT — W. W. Yothers and F. R. Cole (January 31): A recent partial survey over the most heavily infested citrus growing sections last year indicates that this pest is not present to the extent that it was last year. In fact, the growers interviewed indicated that perhaps not one-thousandth as many were present as there were last year. It is a fact, however, that a branch of new growth here and there was heavily infested; in most instances this was from tangerine trees or other varieties of the Mandarin family. Both sexes were found on Spiraea plants at Lakeland. These plants were most heavily infested and the aphids were practically destroying all the new growth. The usual predacious enemies were present in considerable abundance and in most instances had completely destroyed colonies.

Florida — W. W. Yothers (March 23): A year ago there was a most terrible scourge and infestation of aphids south of here. This infestation hardly reached here last spring in time to cause any injury whatever. At the present time, however, this pest is here in maximum numbers and it is simply killing the new growth as rapidly

As it appears in most groves. Just now I would rather not predict the effect of this pest upon this coming crop, but it looks as if it would materially reduce it. The weather last year was much below normal, while this year it has been much above normal. Although there are more than a dozen predacious enemies at work upon this aphid, they seem to be absolutely powerless to stop its multiplication. It is a general consensus of opinion that the aphids are not as abundant as they were last year where the infestation was the greatest. In one grove I found that this insect had been completely wiped out by what I presume was a most virulent fungus.

BLACK CITRUS APHID (Toxoptera aurantiae Koch)

California — E. A. McGregor (March): Since the development of the new spring growth on the citrus trees in the Porterville region the black citrus plant louse has been much in evidence. The occurrence this season of this pest amounts practically to an outbreak. It is rather too early yet to estimate how severe the attack on citrus may amount to, but in the past it has occasionally been responsible for the complete destruction of the new growth of the season.

ORANGE THRIPS (Euthrips citri Moulton)

California — E. A. McGregor (March): Regarding minimum temperatures, the winter of 1924-25 was a rather mild one in the Porterville district, contrasting with the very cold winter of 1923-24. This will afford an opportunity of further studying the relation of winter conditions to thrips abundance the following season. The first larvae were seen on March 2 this year, which is four days later than the earliest record for 1924.

GRAY SCALE (Coccus pseudomagnoliarum Kw.)

California — E. A. McGregor (March): The unseasonably warm weather of the past ten days has greatly accelerated the growth of the maturing gray scales on citrus in the Porterville region. This points to an early hatch, and if this proves to be the case it will have a bearing on the spring control of the citrus thrips by advancing the date for thrips spraying.

FIG

THREE-LINED FIG BORER (Pytchodes trilineatus L.)

Mississippi — R. W. Harned (March 25): Mr. Troy Thompson, of the U. S. Bureau of Entomology, has found fig trees at Bay St. Louis practically killed by borers that have been tentatively determined as this species.

TRUCK-CROP INSECTS

GENERAL FEEDERS

CUTWORMS (Noctuidae)

Florida — F. S. Chamberlin (March 23): Various species of cutworms are unusually numerous this spring at Quincy, owing apparently to the open winter.

Texas — F. L. Thomas (February and March): Has utterly destroyed gardens at Harleton, and last season, while not as bad as this season, it destroyed quite a lot of cotton, causing many to plant as high as three times.

MOLE CRICKET (? *Gryllotalpa borealis* Burm.)

Alabama — J. M. Robinson (March 10): We have had several inquiries about the damage of a mole cricket to vegetables. This insect is quite abundant and does considerable damage in the southern tier of counties in this State.

APHIDIDAE

Arizona — News Letter Vol. 3 No. 2 (February 28): Plant lice or aphids have been observed during February doing some damage to cabbage, cauliflower and turnips. Some growers throughout the Salt River Valley have been applying nicotine dust while others have used the nicotine sulphate spray.

TWELVE-SPOTTED CUCUMBER BEETLE (*Diabrotica duodecimpunctata* Fab.)

Louisiana — W. E. Hinds (February 25): There is much complaint from the twelve-spotted cucumber beetle attacking winter-grown truck crops at Baton Rouge. These beetles have been active and apparently laying eggs throughout the winter, and at this time appear to be scattering from the truck gardens to other posts.

AN APHID (*Macrosiphum taraxaci* Kalt.)

Nebraska — M. H. Swenk (October to Dec. 1924): An infestation of dandelions with the aphid was reported from Phelps County during the first week in October.

TARNISHED PLANT-BUG (*Lygus pratensis* L.)

Ohio — H. A. Gossard (March 21): A specimen of a tarnished plant-bug was observed in flight at Bono on March 17.

POTATO

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata* Say)

Mississippi — R. W. Harned (March 25): On March 18 H. H. Wedgworth collected a Colorado potato beetle feeding on cabbage at Hazlehurst, Copiah County.

Louisiana — W. E. Hinds (February 25): At Baton Rouge the Colorado potato beetles are becoming injurious to early crops of Irish potatoes.

C. E. Smith (March 23): General emergence of beetles (Leptinotarsa 10-lineata Say), from hibernation seems to be almost completed, if not entirely. Mating very common and considerable number of egg clusters noted in Louisiana and a few larvae which ranged from very small to about one-half grown.

Idaho — Claude Wakeland (March 18): The Colorado potato beetle was discovered at Parma last season and steps were taken by the Experiment Station to eradicate it. How successful this work was will not be known until we have opportunity to check up on it during the growing season. The chance of eradication is good, since it was found to be established in only one small field and scouting did not show it to be present in other fields in the same community.

SWEET POTATO

SWEET-POTATO WEEVIL (Cylas formicarius Fab.)

Alabama — Monthly Letter Bureau of Entomology No. 130 (Feb. 1925): E. G. Caldwell has been appointed an inspector of the Alabama State Board of Horticulture to keep in touch with the sweet-potato weevil situation in the neighborhood of Foley, Baldwin Co., where severe infested sweet potatoes were recently found in a storage house.

TOMATO

WIREWORMS (Melanotus sp.)

Louisiana — C. E. Smith (March 19): The larvae of this species were found making large ragged holes in the underground portion of the stem of young tomato plants at Baton Rouge. The ground on which this wireworm was collected was sod previous to 1924, when it was brought back into cultivation. A considerable number of tomato plants had been completely killed.

STRAWBERRY

PEACH-TWIG BORER (Anarsia lineatella Zell.)

Nebraska — M. H. Swenk (October to December 1924): A bed of strawberry plants showing severe injury by the strawberry crown miner was examined in Lancaster County during the third week in October.

STRAWBERRY -CROWN BORER (Tyloderma fragariae Riley)

Missouri — L. Haseman (March 18): This pest has about ruined some

plantings in southwestern Missouri. Our inspection of strawberries show it to be the most threatening pest of the crop at this time.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

North Carolina — W. A. Thomas (March 17): We are now at the beginning of what promises to be the heaviest strawberry weevil infestation this section (Chadbourn) has experienced in many years. The weevils were first observed in the fields here on March 13, more than one week earlier than our previous early record. The infestation is widespread here and is rapidly increasing in severity. Dusting for control is well under way.

WHITE GRUBS (Phyllophaga sp.)

South Carolina — John B. Steele (March 2): White grubs are destroying strawberry plants and meadow grass, and are causing almost 100 per cent destruction in certain sections of South Carolina.

PEAS

PEA APHID (Illinoia pisi Kalt.)

California — R. E. Campbell (March 25): The pea aphids are getting very plentiful, averaging as high as 100 to a foot in several fields, and already all showing small damaged areas here and there. I expect a severe infestation, if conditions continue favorable. I inspected several fields of alfalfa in the Antelope Valley on the way up (March 20) and saw the worst infestation in my experience. Large areas in many fields were entirely killed, while the remainder was so severely infested that it would be killed in a few days. The aphids were so thick that many were crawling about on the ground. The alfalfa was just started, not over 6 inches high, but indications are that the first crop will be ruined in the infested section. The only natural enemy observed was the Syrphid, Eupeodes volucris, which was plentiful in the adult form.

BEANS

A SOWBUG (probably Porcellio sp.)

Mississippi — K. L. Cockerham (March 23): All during early March the common sowbug, probably Porcellio sp., has done considerable damage here at Biloxi. They have attacked various flowering yard plants, and in the truck garden have been injurious to mustard, radishes, and young beans. In some local cases the stand of beans has been affected. This pest seems to be more numerous this spring than usual.

TURNIPS

AUSTRALIAN TOMATO WEEVIL (Desiantha nociva Lea)

Mississippi — K. L. Cockerham (March 23): During the early part of March heavy infestations of the Australian tomato weevil have been located

at Picayune, Pearl River County, by J. A. MacLemore, and at Bay St. Louis and Waveland, Hancock County, by Messrs. F. A. Wright and Troy Thompson. Turnips was the crop being attacked and larvae were most plentiful.

M. M. High (March 23): There is a very heavy infestation of the Australian tomato weevil on turnips at Bay St. Louis.

W. M. Mingee (March 25): I observed on February 28, and March 6, considerable damage being done to turnip patches near Picayune, by the Australian tomato weevil.

R. W. Harned (March 25): The Australian tomato weevil has caused serious damage to turnips at several places in South Mississippi. On February 24, J. A. MacLemore, of the U. S. Bureau of Entomology, collected a large number of the larvae of this species from three properties in the southern part of Pearl River County. All were collected near the roots of turnips and one property was heavily infested. On March 6, Mr. MacLemore collected a large number of larvae and pupae from turnip patches on several other properties. On one property he collected all that he could find on three square feet of the turnip patch, and submitted the following figures:

Size of turnip patch	21 ft x 48 ft.
Area of turnip patch	1008 sq. ft.
Area examined for <u>Desiantha nociva</u>	3 sq. ft.
Number of larvae collected	39
Number of pupae collected	28
Total number of larvae and pupae collected	67

CABBAGE

IMPORTED CABBAGE WORM (*Pontia rapae* L.)

Mississippi R. W. Harned (March 25): Mr. H. H. Wedgworth, Inspector for the State Plant Board, with headquarters at Raymond, reported the imported cabbage worm at work in several fields of cabbage around Crystal Springs on March 18.

TWELVE-SPOTTED CUCUMBER BEETLE (*Diabrotica duodecimpunctata* Fab.)

R. W. Harned (March 25): Mr. Wedgworth has observed the 12-spotted cucumber beetle in large numbers on cabbage plants during Febriary and March in Warren, Hinds, and Copiah Counties. His first report in regard to the abundance of these insects on cabbage plants was dated February 10. In regard to the injury caused to cabbage by these beetles, he writes as follows: "This pest may feed on any part of the leaf, but seems to prefer the under side. However, I have watched them feed for some time on the upper surface, and sometimes holes are eaten through the leaves. I have examined about 20 cabbage fields or about 60 or 70 acres and found this pest present in every field. I believe I am safe in estimating the damage at 1 per cent of the crop. In one field, at Yokena, the damage ran up to about 5 per cent or better. The principle injuries are, first,

buds eaten out, heads will not form; second, attack on the young plants often means death to the plant, causing a poor stand."

HARLEQUIN CABBAGE BUG (Murgantia histrionica Hahn)

Mississippi R. W. Harned (March 25): Harlequin cabbage bugs have been reported from a number of places in the State. Usually they are found congregating on old cabbage plants or hibernating in protected places.

CELERY

CELERY LEAF-TYER (Phlyctaenia rubigalis Hbn.)

Florida W. H. White (March 3): The celery leaf-tyer has occurred early in larger numbers in celery fields in the Sanford, Fla., district than in previous years. This early activity of the insect is apparently due to weather conditions which have been favorable to the insect's rapid development. During the early part of February the infestation was limited to the mature and nearly mature celery. This fact would indicate that the early plantings of the previous fall became infested and the worms gradually decreased in numbers in the fields originally infested. An examination of a number of celery fields on February 10, 1925, showed all stages of the insect present, including larvae in various stages of development. The worms at this date were not sufficiently abundant to cause any noticeable damage. Judging from existing conditions, however, the indications are that unless control measures are undertaken the worms will become abundant enough in about a month or six weeks to cause considerable damage to celery.

CARROTS

CARROT RUST FLY (Psila rosae Fab.)

New York C. R. Crosby (January 18): Infested carrots received from Buffalo which are being attacked by this insect.

ONION

ONION THRIPS (Thrips tabaci L.)

Texas F. L. Thomas (March 21): Reported from Lovelady, Houston County.

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

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

GENERAL U. S. Department of Agriculture (Press Service, March 25): The Bureau of Entomology of the United States Department of Agriculture

has just completed the annual examination made for the purpose of determining the survival of boll weevils in Spanish moss. The examinations this year have been more extensive than has been the case in the past, including not only the usual points around the laboratory at Tallulah, La., but also representative points in extreme southern Louisiana and in South Carolina and Georgia. The records which follow indicate that as far as the initial emergence of the weevil is concerned the southeastern States may expect at least a normal number, sufficient, in fact, to be a serious control problem from the very beginning of the season in those fields nearest to hibernation shelter. From Alabama westward, however, it is evident that a lighter infestation will prevail on the average with the possible exception of the extreme Gulf Coast regions, but it is also evident that this infestation is going to be very abnormally "spotted". A peculiar combination of conditions last summer and fall produced exceedingly variable crops of weevils to go into hibernation and it will probably be found that regions of heavy infestation will be separated by only a few miles from regions of very light infestation. Minimum temperatures for the winter have been fairly high, certainly not below normal, and, as a consequence, survival among those weevils actually in hibernation has evidently been fairly high and emergence is going to be largely determined by the local abundance of weevils entering into hibernation in the fall.

In northern Louisiana a total of 3,258 pounds of moss at sixteen points in Madison, Tensas, and Richland Parishes was examined; in southern Louisiana 782 pounds were collected in Lafayette and St. Landry Parishes; in the Southeastern States, 2,478 pounds represented forty-nine points in Florence, Allendale and Dorchester Counties, South Carolina, and Decatur and Lowndes Counties, Georgia. The following tabulation showes the outline of results of these examinations since the records were started in 1915:

Year		Live weevils per ton of Moss
1915	Northern Louisiana	10.0
1916	" "	24.0
1917	" "	8.0
1918	" "	1.7
1919	" "	4.0
1920	" "	9.5
1921	" "	22.0
1922	" "	127.0
1923	" "	19.0
1924	" "	0.5
1925	" "	0.6

Table showing results at new points of examination:

1925	Southern Louisiana	31.0
1925	Georgia and South Carolina	31.0

North Carolina

R. W. Leiby (March 20): Two boll weevils appeared in our wire-screened hibernation cages on March 12 at Aberdeen. These are

the first definitely known to have emerged from winter quarters in this State by workers of the Division of Entomology.

Louisiana W. E. Hinds (February 25): The Mexican boll weevils have been active in increasing numbers in hibernation cages at Baton Rouge during the past two weeks. The indications at the present time are for an unusually high per cent of survival and early emergence, at least in central Louisiana.

RICE

APHIDIDAE

Louisiana J. W. Ingram (March 20): Aphids have been found feeding on young rice in a number of fields in this vicinity (Crowley). Discolored areas were observed on the leaves of many of the plants which were apparently the result of the feeding of the aphids.

RICE STINK BUG (Solubea pugnax Fab.)

Louisiana J. W. Ingram (March 23): Indications are that a larger percentage of hibernating rice stink bugs survived the winter in the rice belt of southwestern Louisiana than in several years. This is probably due to the unusual dryness of the winter season and the lack of low temperature.

RICE WATER WEEVIL (Lissorhoptrus simplex Say)

Louisiana J. W. Ingram (March 23): The first water weevil feeding near of the season was found on unflooded rice near Maxie. The weevil was found hiding in the soil at the base of the plant on which it has been feeding at night.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana United States Department of Agriculture, Bureau of Agricultural Economics (March 17): For the second time the Bureau of Agricultural Economics and the Bureau of Entomology have cooperated in estimating the damage to sugarcane in Louisiana due to the sugarcane moth borer

An estimate of the loss for 1924 has now been obtained, and it is 13 per cent of a normal or full crop. For 1923 the loss was 23 per cent of a full crop, for 1922 it was 17 per cent, and the usual loss has been determined as 19 per cent. The loss for 1924 is therefore quite low, and one reason for this is that the cold of the previous winter killed borers in exposed pieces of stubble and crops of cane left about the plantations, as was determined by the Bureau of Entomology. The prolonged drouth of the summer may also have reduced the number of borers.

It is interesting to note that the Bureau of Entomology estimated from their own field examinations, while the Bureau of Agricultural Economics estimates from answers to questionnaires sent to sugar planters. Until the final results were available one Bureau had no idea of the figure reached by the other Bureau. When the two

figures, obtained independently, were compared at last, they were found to agree within less than half of one per cent. The Bureau also finds that soaking the seed cane in water of ordinary temperatures for 72 hours kills the borers in the stalks and hastens the germination. A Louisiana planter is trying this treatment on a large scale.

The cooperating Bureaus estimate that the actual loss, expressed in terms of short tons of sugar, due to moth borer damage on the acreage used for sugar (excluding the acrage used for "seed" and sirup) in the Louisiana Cane Belt for the past three years is as follows:

YEAR	ACREAGE USED FOR SUGAR ACRES	LOSS OF SUGAR. SHORT TONS OF 2000 lbs.
1922	241,433	61,665
1923	217,259	74,954
1924	180,000	35,100

WIREWORMS (Elateridae)

Louisiana T. E. Holloway and J. W. Ingram (March 17): Wireworms are again doing damage at a plantation near Morgan City. Last year they were practically limited to one low field, but this year they seem to be distributed over a large part of the plantation. Last year the most injurious species was determined as Melanotus sp., but this year practically all specimens were Monocrepidius lividus DeG. The damage is not serious so far. A heavy application of kainit is being tried.

NOTE J. A. Hyslop: The larvae above mentioned were sent to me for determination. The species as far as we have records is not of serious economic importance, but one of the forms which is normally predacious, and was possibly feeding on the more destructive wireworm (Melanotus sp.,)sent in from this same region last year.

TOBACCO

A TIGER MOTH (Apantesis phyllina Drury)

Florida F. S. Chamberlin (March 26): A field of newly set tobacco was observed March 25, at Quincy, being slightly damaged by larvae of Apantesis phyllina. The field had previously been in Bermuda grass.

FOREST AND SHADE-TREE INSECTS

MISCELLANEOUS FEEDERS

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Mississippi H. Gladney (Quarterly Bulletin, State Plant Board of Mississippi, Volume 4, No. 4 (January): Last year the bagworm did considerable damage in many parts of the State by defoliating and ultimately killing valuable trees. This year the damage may be expected to be even greater as the egg supply this winter greatly exceeds that

of last winter. People with collections of valuable trees and shrubs should begin control measures now in order to avert the ravages of this pest next spring.

Missouri L. Haseman (March 18): In the western half of the State this pest is about the worst ever on evergreen, shade, ornamental, and fruit trees.

BOXELDER

BOXELDER PLANT-BUG (Leptocoris trivittatus Say)

Nebraska M. H. Swenk (January and February): Complaints of annoyance in houses through the presence of boxelder bugs have been somewhat more plentiful than normal during the period covered by this report.

ELM

ELM LEAF-BEETLE (Galerucella luteola Muell.)

California T. D. Urbahns (March 5): Elm trees were in bloom but adult beetles were not active up to this date. The beetles could be found in hibernation under old bark and became active as soon as they were disturbed.

PINE

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

South Carolina R. A. St. George (March 7): A visit on February 25 and 26 to the private estate of Mr. B. M. Baruch, located on a peninsula outside of Georgetown, revealed an outbreak of the southern pine beetle which has been in progress from 1922 at least up to the present time. Over 1,000 loblolly, pond, and longleaf pine trees, mostly the first-mentioned species, have died from the attacks of this beetle. It is reported that the trees were first noticed to begin to die shortly after a storm in 1916 when salt water was forced over the timber land, which is only 12 feet above sea level. It was thought that possibly the action of the salt upon the root system of the trees affected their growth and produced an effect similar to that caused by drought, which usually precedes an outbreak of this beetle. Weather records taken at Georgetown show that there was an excess of rainfall from 1920 to 1924, inclusive. Control measures have been in progress each winter since 1922. It is believed that the situation is now under control.

PINE SCALE (Chionaspis pinifoliae Fitch)

Nebraska M. H. Swenk (October, November, and December, 1924): Reports of injury by the pine-leaf scale have come in from several counties in the eastern part of the State during the period covered by this report, the injury, however, having occurred somewhat earlier in the season.

BARK BEETLES (Ips spp.)

GENERAL STATEMENT R. A. St. George (January 26): Additional reports are still being received from various lumber companies in Alabama, Louisiana, and Texas, relating to trees dying during the fall mainly from the

effects of the drought and subsequent attack by bark beetles (Ips species).

A portion of a letter from one lumber company in western Louisiana shows how extensive these losses have been in that section: "Our estimates based on actual scaling of dead trees in representative areas show a total of 9,300,000 feet of dead trees on 7,300 acres of timber. In one location the average on 440 acres actual measurement was 3,400 feet per acre, with a general average over the entire body of timber of 1,274 feet per acre."

Alabama and Texas — R. A. St. George: As a result of a recent investigation in the South, in compliance with the request of several lumber companies, there were found to be some 70,000,000 feet of pine timber dead and dying in an area extending from Alabama to Texas. Most of the trees died within the last three months and the foliage on many of them started to fade within the past month. All of these trees were found to be infested, while their tops were still green, by the following species of bark beetles which were thought to be of only secondary importance: Ips avulsus Eichh., I. calligraphus Germn., and I. grandicollis Eichh. The last species was not present in very great numbers.

In addition to bark beetles the trees were found to be dying from the combined effects of such agencies as drought, unfavorable soil conditions, fire and turpentining. Drought appeared to be the most important agency and probably the primary cause of the present condition of the trees.

Longleaf pine (Pinus palustris Miller) covered the greater part of the area investigated and, consequently, was the species most affected. Other species infested were shortleaf (Pinus echinata Miller), loblolly (Pinus taeda Linn.) and slash pine (Pinus heterophylla Sudw.) A greater part of the infested timber lies in eastern Texas, centered about Zavalla, Angelina County, although a considerable amount is in the eastern and western parts of Louisiana, especially the western. Smaller areas of infestation were found in southern Mississippi and eastern Alabama. Several of the turpentine and lumber interests are suffering heavy losses as a result of the present situation.

NANTUCKET TIP MOTH (Rhyacionia frustrana Comst.)

Louisiana — Monthly Letter, Bureau of Entomology, No. 130 (February): The Nantucket tip moth was found to be quite abundant in certain plantations of loblolly and slash pine in eastern Louisiana. The former species was considerably stunted in its growth. In some cases young growth about 5 years of age had attained only half of its normal height. The slash pine was only slightly affected in its growth.

SPRUCE

SPRUCE GALL APHID (Chermes abietis L.)

New York — C. R. Crosby (February 27): Infested spruce twigs were received from Dryden.

WILLOW

AN APHID (Lachnus viminalis Boyer)

Nebraska — M. H. Swenk (October, November, and December, 1924): In Adams County an ornamental willow tree showed a very heavy infestation with the aphid Lachnus viminalis Boyer during the last week in October.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

CHANGA (Scapteriscus vicinus Scud.)

Georgia — Monthly Letter, Bureau of Entomology, No. 130 (February): W. A. Thomas, Chadbourn, N. C. visited Brunswick, Ga., to investigate an outbreak of Porto Rican mole crickets attacking the greens of the Jekyl Island Golf Club.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Nebraska — M. H. Swenk (October, November, and December 1924): Complaints of injury by the common mealybug, and especially on coleus, begonias, petunias, etc., were more numerous than usual during the period covered by this report. (January and February): About the normal number of complaints of infestation of coleus, geraniums and other house plants with this pest were received during the period covered by this report.

FICKLE MIDGE (Sciara inconstans Fab.)

Nebraska — M. H. Swenk (October, November, and December 1924): A report of a heavy infestation of potted plants in a house in Saunders County with the fickle midge was sent in during the latter part of October.

IVY SCALE (Aspidiotus hederae Vallot)

Nebraska — M. H. Swenk (October, November, and December 1924): Complaints of injury by this insect were received. (January and February): about the normal number of complaints of infestation of oleanders with this pest were received during the period covered by this report.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Maryland — P. D. Sanders (February 9): The Sadonia hedge around Montibello Lake, Baltimore, was severely injured.

SCURFY SCALE (Chionaspis furfura Fitch)

Maryland — P. D. Sanders (February 9): Sadonia hedge at Montibello, Baltimore, was crusted with the scales.

HEMISPHERICAL SCALE (Saissetia hemisphaerica Targ.)

Nebraska — M. H. Swenk (October, November, and December, 1924): The hemispherical scale was reported attacking ferns. (January and February): About the normal number of complaints of infestation of ferns with this pest were received during the period covered by this report.

INSECTS AFFECTING MAN AND DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicidae)

Connecticut — R. C. Botsford (March 20): Heavy breeding in shallow pools at Westbrook. Probably Aedes cantator. Early breeding record for this State. Larva is half grown.

Mississippi — R. W. Harned (March 25): On February 25, H. Gladney wrote from Ocean Springs as follows: "Mosquitoes are very bad here. People say they have never known them to be here in such numbers at this time of the year. Several people have remarked that they were blown in by a south wind." These mosquitoes were sent to Dr. L. O. Howard, who replied as follows: "Doctor Dyar finds one male of Aedes sollicitans Walk. which, as you know, is a salt-marsh species; and one male and one female of Culex quinquefasciatus Say, the common rain-water-barrel mosquito. Of course the Culex was a local production, but the sollicitans may have migrated from nearby salt-marsh, assisted by the wind. Sollicitans is known to be a great traveller."

HORSES

HORSE BOT-FLY (Gastrophilus intestinalis DeG.)

Missouri — E. Haseman (March 18): This pest seems not to have been as abundant as usual this winter and spring.

Texas — F. L. Thomas (February 27): At Nacogdoches this insect was noticed to be very abundant on the legs of a horse.

HORSE LOUSE (Haematopinus asini L.)

Nebraska — M. H. Swenk (January and February): An unusual insect

parasite for this State came to our attention in middle February in the form of the infestation of a number of horses in Cass County with the sucking louse Haematopinus asini.

CATTLE

OX WARBLE (Hypoderma lineatum DeVill.)

Missouri L. Haseman (March 18): This pest seems not to have been as abundant as usual this winter and spring.

Texas D. C. Parman (March 20): The ox warble appeared early last fall (the latter part of August) at Uvalde and has continued in the backs of cattle later than usual, an occasional larva is still found. (March 20): The heel fly activity was quite noticeable on several days during February and the height of the activity probably occurred during the month.

HORN FLY (Haematobia irritans L.)

Texas D. C. Parman (March 20): The horn fly has not appeared at Uvalde in noticeable numbers, most of the cattle have no adults, a very few as many as 25.

SCREWWORM (Chrysomyia macellaria Fab.)

Texas D. C. Parman (March 20): The adults of the screwworm appeared the last days of February and the trapping on March 14- 6 per cent were Chrysomyia macellaria.

CATTLE LOUSE (Trichodectes scalaris Nitzsch)

Missouri L. Haseman (March 18): Some are complaining of cattle lice.

HOGS

HOG LOUSE (Haematopinus suis L.)

Missouri L. Haseman (March 18): Hog louse is always present here.

POULTRY

CHICKEN MITE (Dermanyssus gallinae Redi)

Missouri L. Haseman (March 18): The chicken mite has begun itswork and is abundant.

CHICKEN LICE

Missouri L. Haseman (March 18): Lice are abundant on chickens this spring.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Texas D. C. Parman (March 20): The hen flea is appearing in good numbers at Uvalde and some losses are being had where precautions are not being taken. The infestations have been found in a few instances where there were 1,000 or more fleas on most fowls. The first active adults were observed February 10.

FOWL TICK (Argas miniatus Koch)

Texas D. C. Parman (March 20): The fowl tick does not appear to be so abundant this season as during the past two seasons. They are present in good numbers in all hen houses where strick remedial measures are not applied. Slight activity begun the last week in February and considerable activity has been observed during the first part of March. The more thorough remedial measures probably account for the lighter infestations.

ANTS (Formicidae)

Alabama W. A. Ruffin (March 10): Investigated in Geneva County the various species of ants that have been causing considerable trouble to the people interested in poultry production. In some cases the ants were so abundant and so destructive to the young chickens that out of a 500 hatch only from 25 to 30 chickens were raised. These ants are rather abundant over the whole State. We have not yet determined the specific name of the ant, but hope to do so in the very near future.

INSECTS INFESTING HOUSES AND PREMISES

CLOTHES MOTH (Tinea pellionella L.)

Missouri L. Haseman (March 18): Clothes moths seem more abundant than usual and many are complaining of damage done last summer and fall.

BEAN WEEVIL (Bruchus obtectus Say)

New York C. R. Crosby (February 25): Many specimens found in house at Auburn.

A BEETLE, Anobium punctatum DeG.

Kansas H. B. Hungerford (March 19): This beetle, commonly called "death watch" had quite seriously damaged several large volumes of books in the University Library, Lawrence, which were purchased from Gembier, Paris, France.

CLOVER MITE (Bryobia praetiosa Koch)

California A. O. Larson (March 16): Specimens were collected March 16 at Alhambra and identified by Dr. H. E. Ewing March 24. Attacking

storksbill, wild radish, and mustard. The normal food of these mites was drying up on a vacant lot near a house and the mites were migrating to the house, which was a fine stucco house two years old. The mites were coming into the kitchen, bedroom and bathroom and covering everything.

A TERMITE, Reticulitermes tibialis Banks

Nebraska M. H. Swenk (October, November, and December, 1924): Additional houses harboring an infestation with the termite, Reticulitermes tibialis, to those mentioned in my report for August were reported from Grand Island, Hall County, in early October. This same pest was reported as having destroyed many flowers during the summer of 1924 and as having also destroyed wooden articles near at hand, in middle October, from Johnson County. (January and February): An additional report of injury to a house by this common species of termite was received early in January from Wood River, Hall County.

LARDER BEETLE (Dermestes lardarius L.)

Massachusetts A. I. Bourne (March 25): A few days ago an interesting case was brought to my attention of a lot of English walnuts found to be infested with the common larder beetle. Attention was called to this infestation when the shells were cracked and in several cases adult beetles were found within the shells, apparently unable to get out. In some cases the beetles were dead. From an examination of the nuts, apparently entrance had been made by very small larvae, because there was no indication of noticeable entrance holes anywhere on the nuts or in the seams between the two halves of the shell. Apparently the larvae found food conditions satisfactory and carried through to the adult stage. The beetle to all appearances was unable to get out. In some cases we found the live beetles in the nuts when they were cracked, and in a few instances dead beetles were found. It is known of course, that this species has considerable latitude in its feeding habits, but this is the first instance which has been brought to our attention of this species attacking English walnuts. The infestation was not particularly heavy, and possibly the reason can be found in the fact that the beetles, coming to maturity inside the nuts, died before they could get out, and thus the spread of the infestation was automatically stopped.

CAT AND DOG FLEA (Ctenocephalus canis Curtis and C. felis Bouche!)

Nebraska M. H. Swenk (October, November and December, 1924): Several infestations of premises with fleas were received during October.

AN INTRODUCED FLY, Muscina pascuorum Meig.

Connecticut — W. E. Britton (March 24): Very abundant at New Haven in 1923 not a specimen seen in 1924. One taken on the laboratory window March 10, 1925.

Maryland and Virginia — B. I. Shannon (March 27): In the Fall of 1923 a single specimen was taken at Plummer's Island; in 1924 a single specimen was taken during August at the same place, and March 26, 1925, 12 specimens were taken on the mainland on the Virginia side across from the Island, lapping the sap from a sugar maple tree.

INSECTS INJURIOUS TO STORED PRODUCTS

MEAL MOTH (Pyralis farinalis Comst.)

Missouri — L. Haseman (March 18): Thus far at Columbia have not observed the meal moths on wing, so I doubt if the pest prowes serious with us there.

GRANARY WEEVIL (Calandra granaria L.)

Nebraska — M. H. Swenk (January and February): About the normal number of complaints of injury by stored grain pests have been received during the months of January and February. These have related chiefly to the true granary weevil.

INDIAN-MEAL MOTH (Plodia interpunctella Huebn.)

Nebraska — M. H. Swenk (January and February): About the normal number of complaints of injury by stored grain pests have been received during the months of January and February. These have related chiefly to the Indian-meal moth.

HIDE BEETLE (Dermestes vulpinus Fab.)

Florida — Monthly Letter, Bureau of Entomology, No. 128, (December, 1924): On December, 2 E. A. Vaughan visited Port Saint Joe to investigate a most interesting outbreak of this insect in an establishment producing fish oil and fish scrap.

NOTES FROM THE FEDERAL NORTICULTURAL BOARD, December 26, 1924

INTERCEPTIONS

Several interceptions have been made recently at the port of New York of insects in the mail. While for the most part the insects consisted of butterflies, mounted, two packages were received, one from Germany and the other from Czecho-Slovakio, which contained living Lepidopterous pupae.

The Inspector of the Charleston, S. C. office made a very

important interception on October 27. A trunk, the contents of which were manifested as "one case preserves in tin", arrived at Charleston, S. C., on the SS. Mohawk. The consignment came from Palermo, Italy, via New York, Upon examination, the inspector, found the trunk to contain artichoke roots which were infested with insects. In addition to several common insects, there was a Cryterhynchid weevil, a specimen of which is not in the National Museum Collection. Nothing is known of the habits of this weevil. Lepidopterous larvae were found and identified by specialists as representing a species of Eucosma, a root borer, which is injurious to plant life.

The Collector of Customs at Charleston was requested to have the artichoke roots removed from the United States or destroyed by burning.

The importance of carefully inspecting baggage of passengers is emphasized by the finding of upwards of a dozen larvae of the Mediterranean fruit-fly in one tangerine examined out of a lot of three dozen taken from the baggage of a passenger arriving at New York on the SS. Duilio from Naples, Italy. The vessel came from Naples direct and carried 1,100 passengers.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 May 1, 1925 Number 2

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

INSECT PEST SURVEY BULLETIN

Vol. 5 May 1, 1925 No. 2

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR APRIL, 1925

During the past month the outstanding entomological feature was the decided advance of the season in the New England, Middle Atlantic, South Atlantic, and Gulf States, and the Mississippi and Ohio River Valleys. In New England the entomological season is about two weeks in advance of normal.

The outbreak of the army cutworm rapidly progressed in the Rocky Mountain foothills region, extending from northern Texas across western Oklahoma, Kansas, and Nebraska, and into eastern Colorado and Wyoming.

We are advised through Dr. Herrera of a terrific outbreak of grasshoppers in the States of Chiapas and Veracruz, to the southern boundary of the State of San Luis Potosi, Mex.

The chinch-bug situation on the whole remains favorable. But little damage is anticipated in the Ohio River basin and the only reports of damage are coming from northern Mississippi.

Hessian-fly emergence has so far been slight and protracted over Indiana, Illinois, Missouri, Nebraska, and North Dakota. The situation as a whole is not generally serious.

The green-bug situation is generally favorable over the entire belt.

A new pest, Tosastes cinerascens Pierce, is reported as attacking alfalfa in eastern Oregon. This is undoubtedly a native weevil turning its attention to cultivated crops.

Aphids on apples hatched considerably earlier than usual over most of New England, where they are also reported as more numerous. An abundance of aphid eggs is also reported from Minnesota, Wisconsin, and Missouri. On the other hand, Illinois anticipates but little damage from these pests, as abnormally small numbers are now present.

Codling-moth adults emerged ten days earlier than usual in central Illinois and three weeks earlier than usual at Bentonville, Ark. Similar records of early emergence are received from central Missouri.

The plum-curculio situation in the peach belt of Georgia is serious. The beetles are just putting in an appearance in the orchards of southern Illinois.

The weevil Glyptoscelis squamulata Cr., first reported as a pest in the Survey Bulletin of May, 1922 (Volume 2, No. 2, page 50), where it was reported as damaging grapes, in southern Nevada, is now reported for the second time as attacking grapes this time in the Coachella Valley in southern California.

The Australian tomato weevil is gradually working its way inland from the coast counties in Mississippi and Louisiana. It now covers a strip of territory extending from Mobile County, Ala., westward along the Gulf coast to Washington and St. Tammany Counties, La., and northward to Forrest County, Miss.

The seed-corn maggot was reported during the last two weeks of the month as working in the area from Louisiana to South Carolina. It is of interest to note that this insect is known in Mississippi among the truckers as the "fertilizer worm. In previous volumes of the Survey Bulletin we have noted the association of this insect with the use of organic fertilizers in the New England and the South Atlantic States. A very similar association is noted between the presence of the cabbage maggot and seed-corn maggot and the use of fish-meal fertilizer in California.

Aphids were so numerous on spinach in the cannery sections about Sacramento, Calif., that the crop in some cases was refused at the canneries.

From observations made at the cooperative hibernation stations located throu out the cotton belt, it would appear that the survival of boll weevil is about normal from Texas eastward to Louisiana and Mississippi. In the South Atlantic State survival is generally higher than normal. The only low survival recorded is from the Tallulah, La., station. Field observations in the Brownsville section of Texas indicate that the infestation is heavy for this time of year.

In this number of the Survey Bulletin is a general survey of the camphor-scal situation.

The sheep tick is reported as being more numerous than usual in places in New Hampshire and Indiana, and a report of the apparent introduction of this pest into a locality in Texas on sheep shipped from Ohio has also been received.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR APRIL, 1925

The grasshopper outbreak in British Columbia during 1924 was one of the wors in the history of the Province, injury being done in several sections where outbrea had not been previously reported. Widespread trouble may be expected during 1925 if the spring is hot and dry. Every precaution has been taken to cope with the situation. The grasshopper outbreak in Manitoba which originated in 1919 has been reduced to negligible proportions.

The European corn borer spread to 14 new townships in Ontario during 1924. A very marked increase in severity of infestation occurred in the southern counties especially in Kent and Essex. The prospects for 1925 are for a continued and rapi increase throughout the infested area, because of the large acreage of corn land unploughed, and refuse unburned.

Wireworms ranked as a major pest throughout the Prairie Provinces during 192

Eggs of the European red mite are very abundant in the Niagara district, Ont on plum, apple, and peach.

The codling moth is decidedly on the increase in eastern Quebec. In Britis Columbia light infestations have been found in hitherto uninfested localities.

An outbreak of the grapevine flea-beetle is anticipated in the Niagara district, Ont., during the coming season.

The woolly aphis is on the increase in British Columbia, where it is doing considerable damage in some sections.

The larch sawfly is becoming abundant again in the Maritime Provinces. Further injury may also be expected in the forests west and north of Lake Superior, the infestation extending across northern Alberta.

A very bad outbreak of tent caterpillars is anticipated in southern Saskatchewan and southern Alberta during 1925, with consequent serious defoliation of poplars over extensive areas. Serious trouble is also expected over wide areas in British Columbia.

There is every evidence that the outbreaks of spruce budworm which occurred in 1924 in northern Ontario, Cape Breton Island, and the Rouyn district, northern Quebec, will continue during 1925.

Serious outbreaks of the Douglas fir bark-beetle, Dendroctonus pseudotsugae Hopk., in stands of Douglas fir on Vancouver Island, and injuries to standing cedar by the western cedar borer, Trachykele blondeli Mars., are causing anxiety in British Columbia.

Every effort is being made to stamp out the infestation of the gipsy moth discovered in Quebec at Lacolle late last summer. The infestation covers an area of about one-third of a square mile.

The warble fly, Hypoderma bovis DeG., has spread in Manitoba to such an extent that very few herds are free from it in the southern and central portions of the Province.

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Oklahoma

J. S. Pinckney (April 17): The grasshopper situation appears to be serious in the northwestern part of Jefferson and the southeastern part of Cotton Counties. Upon a rather intensive examination at the above mentioned places many eggs in hatchable condition were found. The majority of the eggs were ready to hatch and some masses were found that had already hatched.

J. R. Horton (April 18): Last year's grasshopper depredation in Comanche County, and in the vicinity of Hastings in Jeffers and Cotton Counties, Oklahoma, has thoroughly aroused the people to expect and prepare for an outbreak this year. The writer found good prospects for sporadic outbreaks in Comanche County in a few places where eggs were found at the maximum rate of 9 healthy pods per square foot. Mostly, however, healthy pods numbered 1 or 2 per square foot. Five species, or possibly genera, were recognizable in the differen types of eggs and egg pods. Diseased and partly destroyed pods were fairly abundant in proportion on March 28.

Texas

F. L. Thomas (April 14): Damage to cotton seems to be earlier and apparently worse than last year, in 50 acres of young cott (Brayos Co.). Millions eating cotton as fast as it comes up (Polk Co.). Reported from Milam, Freestone, Walles, Ft. Bend, and Grimes Counties.

Chafles H. Gable (April 21): W. A. Baker reports grasshoppers Melanoplus differentialis Thos., and M. ponderosus Scud., hatching in tremendous numbers in northern portion of the State where there havebeen rains. They have not yet begun to hatch in a large area of central Texas where they were abundant last year. The drought is so severe that the entire section is as brown and bare as in December except for trees and brush. On April 11 only a small percentage of eggs appeare injured by the drought.

Mexico

A. L. Herrera (April, 1925): Clipping from the daily paper "El Universal" referring to the enormous damage which the grasshoppers have caused in the States of Chiapas and Vera Cruz, also advising that the grasshoppers have already reached Tancanhuitz, San Luis Potosi, and that there is great danger of their invading the United States.

El Universal (April 1925): "The terrible grasshopper plague has eaten up everything even the roofs of the huts. Reports received yesterday with regard to grasshoppers indicate that the plague requires a far more extensive campaign than was

assumed originally. The centers of devastation are around Chiapas and Vera Cruz. The Mayor of Simojevel, Chiapas, reports that the road between this locality and the village known as New, district of Simojevel, is infested by a swarm of grasshoppers which extends over an area of 30 hectares in a mountainous section where it is very difficult to combat the pest. The Mayor of Micapa, Chiapas, states that his municipality has been invaded by a swarm of grasshoppers extending over four miles and in some settlements have left not a single plant uneaten. They have eaten up everything, even the roofs of the huts of the natives, which are thatched with forest leaves. The consternation of the natives has no precedent, and they ask for immediate help. The commissionaries of the State have already started a formal campaign to check the pest. The chief of the Campeche zone reports that a swarm of grasshoppers has settled down in Hecelchhakan on a hillside in the immediate vicinity of the Blanca Flor estate, in the jurisdiction of Santa Cruz, and that measures have been taken to combat the pest there. He states that he has sent a box of grasshoppers which are infected with parasites known among the natives as "Trombidio." This shipment of infected grasshoppers is looked for with great interest, as a matter of special study,

SOUTHERN LUBBER GRASSHOPPER (Romalea microptera Beauv.)

Mississippi — R. W. Harned (April 22): Mr. Troy Thompson of the U. S. Bureau of Entomology with headquarters at Waveland, Mississippi, writes that he observed the Southern Lubber grasshopper on April 16 for the first time in 1925. In regard to these insects he writes as follows: "On the 16th when returning from Picayune, I noticed just north of Bayou Lacroix something in the road that gave the impression of miniature negro soldiers in a 'fan' formation deployed from the grass at the side of the road and after a careful examination I found them to be young nymphs of Romalea microptera. Incidentally this is my first observance of these grasshoppers for the year 1925. I noticed this formation at several places along the road for a distance of a half mile, and all of the movements were from the east to west."

MORMON CRICKET (Anabrus simplex Hald.)

Wyoming — C. P. Corkins (April 16): For the first time in the history of Agriculture in Fremont County, this pest has hatched out on the farm lands. Heretofore they have been a menace only on the range in the mountains. Poisoning operations are now in progress. They are not doing damage as yet.

WHITE GRUBS (Phyllophaga spp.)

Indiana — J. J. Davis (April 23): During the past few months many inquiries have been received relative to white grubs. Although not a great many reports were received last year the reports now coming in, telling of conditions last year, show that this insect was quite generally destructive in the State.

Mississippi — R. W. Harned (April 22): Inspector R. B. Deen reports the first May beetles collected at Tupelo on April 13.

Iowa — C. N. Ainslie (April 23): Phyllophaga adults are reported in unusual numbers in this locality (Sioux City) this spring, P. implicita Horn being so far the most common species. Phyllophaga larvae are not nearly as numerous as last year.

Missouri — Haseman & Wade (April 20): The adults of the white grubs are also beginning to emerge.

Oklahoma — J. R. Horton (April 8): Phyllophaga cribrosa Lec. has caused no commercially important damage as yet at Lawton; very slight to wheat by the grubs. In Comanche County, adults of this wingless may-beetle were already abroad at this latitude on March 24. It may be expected that attacks will occur on some of the fields of soybeans in the above mentioned county this summer.

CUTWORMS (Noctuidae)

Mississippi — K. L. Cockerham (April 15): There has been general complaint in southern Mississippi concerning the damage done by cutworms, probably Agrotis sp. This damage has been observed throughout March and April. I have heard more farmers complaining about cutworm damage this spring than for several years past. One farmer near here (Biloxi) reports that he caught over 200 one night with the aid of a flashlight.

PALE WESTERN CUTWORM (Porosagrotis orthogonia Morr.)

New Mexico — J. R. Horton (April 8): In the latter half of February of this year as compared with the same period in 1924, the worms are not abundant and the damage is slight in Quay County. The worms were in first to third instar February 24-25, this year.

WIREWORMS (Elateridae)

Missouri — Haseman & Wade (April 20): From this State wireworms are reported present, especially in sod land.

California — C. M. Packard (April 10): Injury to grains in the vicinity of Sacramento, Davis, and Stockton, more general and severe than usual.

A WIREWORM (Limonius sp.)

Maryland — E. N. Cory (April): Growers report previous damage to seed corn; poor stand in the vicinity of Accident.

WHEAT

FALSE WIREWORMS (Eleodes spp.)

Kansas & Oklahoma — J. R. Horton (April 17): Injury in some wheat fields in Wichita caused by army cutworm is complicated by false wireworm injury. This was found to be the case by H. F. Walkden and the

writer in Clark, Meade, Seward, and Haskell Counties, Kansas; and Woodward, Harper, and Texas Counties, Oklahoma (March 29-April 3).

CHINCH BUG (Blissus leucopterus Say)

Indiana — J. J. Davis (April 23): No indications that this insect will be destructively abundant this coming year.

Illinois — W. P. Flint (April 23): Field examinations to date bear out hibernation records and indicate no serious damage from this insect at any point in the State from first-brood chinch bugs.

Mississippi — R. W. Harned (April 21): Under date of April 18, a complaint has been received in regard to chinch bug seriously damaging oats at Rome, in Sunflower County. On the same date a complaint was received from Drew, in Sunflower County, in regard to the damage these insects are causing to corn.

Missouri — Haseman & Wade (April 20): Chinch bugs are attracting attention in wheat, where they are mating April 15, in the western part of the State.

HESSIAN FLY (Phytophaga destructor Say)

Indiana — J. J. Davis (April 23): First eggs were observed at LaFayette on April 11.

Illinois — W. P. Flint (April 23): Adults have been emerging at Urbana for nearly a month, but in very small numbers. It has been difficult at any time to find more than one or two eggs on infested plants, and the per cent of infested plants, or culms, has been very low at all times, never amounting to as much as 10 per cent.

North Dakota — C. N. Ainslie (April 16): Leroy Moonaw, Supt. of the Dickinson, N. Dak., Substation, sent me last week a small sack of heavily infested wheat. I dissected 400 puparia. Mr. Moonaw said that he had been looking for parasites and had found none. I thought that he must be mistaken, for I had been rearing plenty of Platygaster hiemalis during the winter from this same material. But, as you will see in the tabulation, I found one parasite in these 400 puparia. The results are as follows:

Pupae	Larvae	Dead	Empty	Parasitized
145	200	26	8	1

It would appear that the emergence of the fly may be slow this spring, since the larvae outnumber the puparia at present and it must take some little time to transform.

The small number of empty cases seem to show a small fall emergence, since it is almost too early for the flies to escape this spring. They are emerging freely now from this material in the warm office, but in the cool soil this would not be likely to happen yet.

The only way I can account for the lack of parasites is that Mr. Moonaw must have taken this wheat from a part of the field other than that from which I took mine in October, since from 600 puparia

from this same field I reared 178 P. hiemalis. The lone parasitic pupa I dissected out was that of a chalcid, some small species.

Missouri — Haseman & Wade (April 20): Hessian fly emerging in northwestern Missouri, April 15, though not especially abundant.

Nebraska — M. H. Swenk (March): As stated in my report for the months of January and February, 1925, forwarded on March 11, reports of infestation by the Hessian fly in wheat drilled on or after the announced date of safe sowing are practically lacking. From present indications the counties most heavily infested at this time are Seward and Fillmore. A survey made in the western part of Seward County showed no infestation in the drilled wheat plants in fields sown after the date of safe sowing, but in volunteer plants infestations of an average of from one to nineteen puparia per plant were found in different fields. In Fillmore County the county agent reports that the volunteer wheat and the wheat sown early, before the announced date of safe sowing, is at this time heavily infested with the Hessian fly. Conditions in the State as a whole, however, are better than they have been at any time in the past few years.

California — C. M. Packard (April 10): Reported attacking wheat in the San Francisco Bay region, damage being less than normal.

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Nebraska — M. H. Swenk (April 9): The infestation since I wrote you last has developed the most severely in southern Keith and nearly all of Perkins Counties. Don B. Whelan, of this office, has been working in the field there since April 1. The weather has been cool, rainy, and windy, so that the cutworms have not been feeding as heavily as they began doing late in March. Some farmers think they are through with their work, but the size of the cutworms indicates that this is not the case. Demonstrations are being given on the use of the poisoned bran bait, and six thousand copies of a circular about this insect have been distributed among the farmers in the infested counties. In other words, the situation is well in hand.

Kansas — J. R. Horton and H. H. Walkden (April 7): Most intensive period in outbreak March 2 to 20. Plants cropped off to or slightly below surface of ground, completely denuding large areas. Observed in Sedgwick, Sumner, Pratt, Barber, Clark, Meade, Seward, Haskell, Stafford, and Reno Counties. Reported from Harper, Kingman, Kiowa, Comanche, and Russell Counties.

Oklahoma — J. R. Horton and H. H. Walkden (April 7): Reported from Major, Ellis, Woods, Woodward, Harper, Comanche, and Texas Counties.

Colorado — C. P. Gillette (March 31): Inquiries are being received concerning a cutworm that is doing great damage to winter wheat. In most instances the worms are marching across the fields, either from stubble land or other locations where the eggs were deposited and

the worms hatched in large numbers last summer. Thousands of acres of grain have already been apparently destroyed by them. Eight localities calling for help in the past four days are Julesburg, Holyoke, Haxtun, Amherst, Akron, Yuma, Wray, and Burlington. Have sent a man to investigate and advise control measures.

Wyoming — C. P. Corkins (April 20): A minor outbreak of the army cutworm has occurred in Goshen County, where control measures have been practiced in a few fields. In the laboratory these worms are already pupating abundantly. Attacking winter wheat, largely.

GREEN BUG (Toxoptera graminum Rond.)

South Carolina — P. Luginbill (April 13): At Columbia the infestation is general, and apparently slight. Enemies, ladybeetles and syrphids, at work. No serious damage expected. Oats heading out.

Texas — Charles H. Gable (April 22): The green-bug situation in northern Texas is unchanged. W. A. Baker failed to find any specimens during a recent trip through the northern counties.

New Mexico — Paul M. Gilmer (April 8): Infestation of green bug in some wheat fields at State College. The damage on the whole has not been serious but in a few fields has reached as high as twenty-five to fifty per cent. The outbreak apparently is now under control by natural agencies.

CORN

POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

North Carolina — W. A. Thomas (April 9): This insect is now doing some damage to early corn at Chadbourn, some of the plants being killed outright. Most of this corn has been checked in its growth by the cool weather of the past three weeks. At the present time the corn attacked is about two inches high and growing very little.

EUROPEAN CORN BORER (Pyrausta nubilalis Huebn.)

New York — Monthly Letter Bureau of Entomology, No.131 (March): L. H. Worthley is conducting a clean-up campaign against the European corn borer in western Long Island and eastern Staten Island, where isolated colonies of the insect have been discovered. The methods followed consist principally in burning over the infested areas by the use of specially designed burners and fuel oil. Good progress has been made in this work, as the weather has been very favorable.

ARMYWORM (Cirphis unipuncta Harr.)

South Carolina — P. Luginbill and T. C. Shiver (April 13): Larvae still small, none over half grown. Field was in alfalfa several years ago. Larvae not as numerous now as a week ago at Columbia. No serious outbreak expected at this time.

Illinois — W. P. Flint (April 23): Armyworm moths taken first time in 1925 on the night of April 2, at Carbondale, according to S. C. Chandler.

ALFALFA

GARDEN WEBWORM (Loxostege similalis Guen.)

Kansas & Oklahoma — J. R. Horton (April 7): A moderate sized flight of these moths was under way during the last two weeks of March, from south-central Kansas to south-central Oklahoma.

A WEEVIL (Tosastes cinerascens Pierce)

Oregon — Don C. Mote (April 13): Adults of above weevil reported to be doing damage to old stand of alfalfa at Pendleton.

CLOVER

CLOVER-LEAF WEEVIL (Hypera punctata Fab.)

Indiana — J. J. Davis (April 23): Have noticed this insect working on clover for some weeks here at Lafayette, although no damage. Today I received specimens from Aurora, in the southeastern corner of the State, with the report that they are working on alfalfa and that the field these specimens came from is practically destroyed in patches where they are working the heaviest. The owner states that they were much more numerous a week ago than now. The specimens received were mostly full-grown larvae, with a few pupae and an occasional one-third grown larva.

GRASS

GRUBS (Cyclocephala sp.)

Illinois — W. P. Flint (April 23): As was expected, following the unusually heavy flight of adults of this species last season, injury by grubs is now being reported in east-central Illinois. Thus far, all injury reported has been to blue grass in lawns.

SORGHUM MIDGE (Contarinia sorghicola Coq.)

Texas — Charles H. Gable (April 21): Because of drought practically no grain sorghum has yet been planted, although it is now seven weeks later than the usual earliest planting period. Sorghum midge made its appearance in normal numbers on Johnson grass in San Antonia on April 8, as against April 27 last year.

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

MISCELLANEOUS FEEDERS

COMMON RED SPIDER (Tetranychus telarius L.)

California — F. R. Brann (April 18): Serious injury done to peaches, prunes,

and apricots in Tulare County from May 10 to November 1, 1924; $150,000 is spent annually in control measures, spraying, and dusting.

EUROPEAN TUSSOCK MOTH (Notolophus antiqua L.)

Kansas H. B. Hungerford (March 3): At Topeka one batch of eggs was found in a shipment of 75,000 Mahaleb seedlings from Angers, France, by R. H. Beamer. These eggs were determined by Dr. H. G. Dyar as the European tussock moth.

APPLE

APHIDIDAE

Massachusetts A. I. Bourne (April 25): Aphids began hatching on apples, and were also noted on plums, as early as March 26, which is the earliest record we have had since 1921 for the hatching of aphids on apple. In regard to the apple aphids I would say that reports from all sections of the State announce that they are more abundant--in some cases to a very marked extent - - than is normally the case. From specimens we have observed there are all three species: the green apple aphid, the apple-grain aphid, and the rosy apple aphid. Many of the orchardists noticed that these aphids hatched so early in relation to the opening of the buds that their dormant sprays, particularly where they used oils, caused a much better control than they were able normally to secure.

Rhode Island A. E. Stene (April 17): At Kingston plant-lice are at this time showing up in unusually large numbers on the opening buds.

Connecticut M. P. Zappe (April 1): Most of the aphids have hatched and are all clustered on fruit buds and a few on twigs. The species are mostly pomi but a few sorbi are mixed in. The abundance is perhaps a little more than average. The season is very early. (April 18): Aphids are scattering to leaf buds. Adalia bipunctata and syrphid eggs are hatching and are quite plentiful in Hamden and Milford.

Philip Garman (April 24): Severe outbreak threatens the fruit growing industry in this State. Species involved are Aphis pomi, A. sorbi, and R. prunifoliae. Rosy aphid present in most orchards of New Haven County.

Illinois W. P. Flint (April 23): Rosy aphis very scarce in orchards in west-central and southern Illinois on April 22. Apparently there will be little injury by this species during the present season. The oat aphid which was abundant earlier in the year has now migrated so that it is difficult to find it.

Minnesota A. G. Ruggles (April 14): The eggs of plant-lice are extremely abundant, particularly on apple; the exact species has not yet been worked out. The indications are that aphids of all kinds will be very abundant this spring. At the date of writing no insects have been found in the field.

GREEN APPLE APHID (Aphis pomi DeG.)

New Hampshire — P. R. Lowry (April 24): At Durham tiny stem-mothers are clustered on the bursting apple buds. Infestation is scattered, but the aphids are common on a few trees.

Missouri — L. Haseman and Mr. Wade (April 20): Green apple aphids and apple oat louse are particularly abundant in the central part of the State.

Oregon — Don C. Mite (March 18): Exceedingly light infestation at Monroe.

APPLE-GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Wisconsin — S. B. Fracker (April): Aphids hatching about April 1. They are very abundant at Gays Mills and Madison.

Missouri — L. Haseman (April 9): A drop in temperature late in March, following a period of warm weather, has almost completely wiped out the young grain aphids in southwestern Missouri.

ROSY APPLE APHID (Anuraphis roseus Baker)

Oregon — Don C. Mote (March 18): Light infestation at Monroe. Examinatio of eggs indicates only about 10 per cent have hatched out to date.

B. G. Thomson (April 13): At Corvallis eggs of rosy apple aphid and green apple aphid are all hatched at this date.

CODLING MOTH (Carpocapsa pomonella L.)

Illinois — W. P. Flint (April 23): First adults of codling moth emerged in breeding cages at Carbondale on April 21, according to S. C. Chandler. Pupation had occurred 10 days earlier at Jacksonville and Urbana. Apparently the adults will be out about the time of the full bloom of the apple in central Illinoi this season, which would mean that young larvae will be hatching in this section a little earlier than usual. The season has been hot and dry throughout the apple districts.

Arkansas — A. J. Ackerman (April 19): An interesting item from the Bentonville section is that about 5 per cent of the codling moth adults have emerged in the insectary by April 19, which is fully three weeks earlier than during a normal season. Growers are just completing the "petal-fall" spray on apple; this spray application should therefore be of value not only for calyx worms but as a cover spray for early hatching larvae.

Missouri — L. Haseman and Mr. Wade (April): The colling moth was pupating in central Missouri on April 21.

FRUIT-TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

New Mexico — Paul M. Gilmer (April 8): In San Juan County an outbreak of the apple leaf-roller of serious proportions is reported. I believe the situation serious enough in the fruit-growing sections of San Juan and Colfax Counties to warrant a thorough investigation.

BUDWORM MOTH (Tmetocera ocellana D. & S.)

Massachusetts — A. I. Bourne (April 25): The bud moth work is making itself apparent as the apple buds are beginning to unfold and develop. Indications point to about the usual abundance of this pest.

TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts — A. I. Bourne (April 25): The apple tent caterpillars continued to be abundant in all sections of the State. The young began hatching here at Amherst on April 8 and 9, which was approximately 12 to 14 days earlier than the date on which they began to hatch a year ago. I find that throughout the State, as a whole, they are hatching much earlier than they did last year, and by about the same number of days as above.

Connecticut — M. P. Zappe (April 18): First egg masses hatched April 2. They have all hatched now, and webs begin to be noticeable. There are more in the southern half of the State than in the northern. On wild cherry and apple.

Illinois — W. P. Flint (April 23): This insect has been very abundant in a few southern Illinois counties, occurring mainly south of a line drawn through Randolph, Perry, Hamilton, and White Counties. The insects have appeared earlier than usual and 90 per cent are now in the stage of mature larvae. Damage to commercial orchards has been very slight, but wild cherry, wild plum, and haws have been completely defoliated in many cases. In a few instances nests have been noted in peach orchards.

LEOPARD MOTH (Zeuzera pyrina L.)

Pennsylvania — H. E. Hodgkiss (April 29): Found a single leopard-moth larva in an apple orchard near Media in Delaware County. This was the only specimen found during pruning operations and it damaged a side branch so badly that it broke off. This is the first case of the leopard moth in Delaware County as far as my records show.

SPRING CANKERWORM (Paleacrita vernata Peck)

Missouri — E. Haseman and Mr. Wade (April 21): Cankerworms are attracting attention in some places.

TARNISHED PLANT-BUG (Lygus pratensis L.)

Massachusetts — A. I. Bourne (April 25): These bugs have been taken in unusually large numbers from early flowers and blossoms in the region directly around Amherst. The increase in abundance is so marked that we are planning to keep very close watch on this insect

during the coming months, when field and garden crops begin to appear.

Connecticut — M. P. Zappe (April): Quite a number of adults present at Washington and Middlefield, and all beginning to feed on opening leaves of apple.

APPLE LEAFHOPPER (Empoasca mali LeB.)

Missouri — L. Haseman (April 9): We may expect unusual damage from this pest in southwestern Missouri. It is ordinarily troublesome in the fall, but it has never been so abundant in the spring as it is this year.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

Indiana — J. J. Davis (April 23): This insect is prevalent and destructive throughout the northern half of the State, as evidenced by the number of inquiries and examples received. At Auburn during the past winter the writer observed a young orchard which was severely injured by this insect.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Massachusetts — A. I. Bourne (April 25): We still continue to receive complaints of increasing abundance of San Jose scale in orchards here and there throughout the State. This can be attributed largely to the fact that many growers have enjoyed more or less immunity from this pest for so many years that they have neglected to apply the dormant sprays. In large commercial orchards, however, we did not find this scale to be at all noticeable.

Wisconsin — S. B. Fracker (August, 1924): Winter mortality apparently 100 per cent at LaCrosse. Apparently eradicated there by spraying last year on all hosts except Sorbaria sorbifoliae and winter killings seems to have completed the work.

Missouri — L. Haseman and Mr. Wade (April 20): The scale situation in the orchards of Missouri this spring is under better control than for the last several years. Considerable delayed-dormant spraying was done for the scale this year.

Oregon — Don C. Mote (March 18): It is difficult to find an orchard in the Willamette Valley with a sufficient number of infested trees for San Jose spray tests.

SCURFY SCALE (Chionaspis furfura Fitch)

Nebraska — M. H. Swenk (March): In the month of March there were several complaints of an abundance of the scurfy scale in apple orchards in the northeastern part of the State.

FRUIT-TREE LEAF SYMETA (Symeta albida Lec.)

Oregon — B. G. Thomson (April 13): Attacking apples, cherries, and

filberts in the Willamette Valley. They are more numerous and over a larger area.

Don C. Mote (March): At Corvallis 60 were collected in 20 minutes. (March 26): Upon shaking trees beetles dropped by the hundreds. Infesting larger block of apple and cherry trees in orchard than they did last year.

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

Massachusetts A. I. Bourne (April 25): Over the State as a whole, the European red mite does not seem to be generally as abundant as last year, as evidenced by the overwintering eggs. In certain orchards in Bristol County, however, they are still to be found in very considerable abundance. The general practice of using the oil sprays in the dormant season, which gained considerable headway last year and is even more widespread now, seems to promise to reduce this threatening pest to a point of only moderate abundance.

Connecticut Philip Garman (April 24): In New Haven and Fairfield Counties mites are about the same as last year.

PEAR

PEAR THRIPS (Taeniothrips inconsequens Uzel)

Oregon Don C. Mote (March 31): A grower brought several branches of blossoms to the laboratory and reported about one-third of his 15-acre orchard infested. Each blossom was infested with at least 3 thrips. (April 20): No further developments, probably because of the cool, rainy weather following the above report.

PEAR PSYLLA (Psylla pyricola Foerst.)

Massachusetts A. I. Bourne (April 25): Found in the college orchards to be out in numbers the first few days of April, and eggs in plenty could be found. This is approximately two to three weeks earlier than the corresponding appearance of these insects last year, when the first eggs were to be found about April 25.

Connecticut M. P. Zappe (April 17): Adults are common on twigs and are beginning to oviposit at Deep River, Hamden, and Milford.

Philip Garman (April 24): Eggs are numerous in several orchards in New Haven and Hartford Counties.

BLOSSOM ANOMALA (Anomala undulata Mels.)

Mississippi R. W. Harned (April 10): Anomala undulata was reported as eating the young buds from pear trees at night at Columbia on March 21. The beetles sent in were determined by J. M. Langston.

PEACH

GREEN PEACH APHID (Myzus persicae Sulz.)

California A. E. Bottel (April 14): Complaints from various points in the

western part of Riverside County. Damage is severe.

PEACH BORER (Aegeria exitiosa Say)

Georgia

O. I. Snapp (April 14): Results from the general use of paradichlorobenzene last fall in the Georgia peach belt have been uniformly excellent. Again injury has resulted from the use of paradichlorobenzene in one,- two,- and three-year-old experimental orchards. Four years is the minimum age limit for the use of paradichlorobenzene with safety in this latitude. Some few growers who were unable to apply the material last fall are making spring applications.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Mississippi

R. W. Harned (April 21): The fruit-tree barkbeetle and other bark-beetles are apparently causing more damage in the State this year than for several years, probably owing in part at least to the unprecedented drouth of last summer. Trees of all kinds throughout the State were seriously injured by this drouth.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia

Oliver I. Snapp (April 14): On account of a large curculio population in the orchards last fall, as a result of a part of the 1924 peach crop left in the orchards when the condition of the markets was unsatisfactory, and on account of the low mortality of the adults in hibernation during the mild winter, the infestation in middle Georgia peach orchards is heavy at the present time. This is indicated by the many "stung" peaches, and the large numbers of adults that are being caught by jarring. In one orchard over 1,000 beetles were caught from sun-up to 8.00 a. m. One grower reports a catch of 500 curculios in one morning with one set of frames. The number of adults that survived the winter is greater than it has been for four years. The percentages of winter survival of adult curculios in various hibernating conditions follow:

Bermuda Grass	- 74.3	Pine needles	- 56.4
Oak leaves	- 35.9	Bare ground	- 12.4

Monthly Letter, Bureau of Entomology, No. 131 (March): For several months O. I. Snapp, of the Fort Valley laboratory, in cooperation with B. R. Coad and E. Johnson, of the Tallulah, La., boll weevil laboratory, has been giving attention to the perfection of the technique for using airplanes in dusting peach trees at Fort Valley. This work has involved the adjustment of the feeding mechanism of the planes so that they would evenly distribute the heavy dust used on peach. O. I. Snapp reports that the first airplane dusting of a commercial peach orchard for the control of an insect pest took place at Montezuma, Ga., March 23, when, in one hour and fifty-five minutes, 10,000 peach trees were dusted with a mixture of arsenate of lead and hydrated lime. The recorded time included that spent in making

trips to the landing field to refill the hopper, etc. A thousand acres of peach trees will be treated during the season by airplane in Georgia under the supervision of the Fort Valley laboratory of the Bureau, in order to obtain data on the results, cost of operation, etc.

Illinois — W. P. Flint (April 23): S. C. Chandler took first adults of the plum curculio on peach trees in Jackson County on April 20. Many trees had been jarred at two- or three-day intervals for some time previously. Peaches, apples, and cherries in orchards in Jackson and Union Counties showed eggs of this insect in moderate numbers on April 22. Very small number of young larvae present at this time.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

GENERAL — Monthly Letter, Bureau of Entomology, No. 131 (March): The activity of the oriental peach moth has been resumed in the South. The first spring pupation took place on February 25 and the first adult emerged on March 8.

Georgia — C. I. Snapp and assistants (April 14): Oriental peach moth larvae are now being found in twigs in commercial peach orchards. A first-generation adult was also captured today in a commercial orchard. First-generation adults have been emerging in the insectary since March 8.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia — C. I. Snapp (April 14): Because of the continuous mild weather, San Jose scale mortality from climatic conditions was very low in middle Georgia during the past winter. At Fort Valley the minimum temperature for the winter was 21°. Spring weather conditions have been excellent for scale reproduction, the maximum temperature being on many days around 85°. Recent observations reveal a rapid increase in the infestation in many orchards. Results from the use of lubricating-oil emulsion during the winter have been generally good, however, experiments showing that in this latitude one application of a 3 per cent emulsion, or two applications of a 2 per cent emulsion, are required for satisfactory control of a heavy infestation on peach trees.

PLUM

MEALY PLUM APHID (Hyalopterus arundinis Fab.)

California — T. D. Urbahns (April 20): This aphid is developing very rapidly and threatens to cause considerable damage. The prune orchards of San Joaquin and Sacramento are probably most heavily infested, while many reports also are received from other adjoining counties. Syrphid flies are abundant.

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Mississippi — R. W. Harned (April 10): The rusty brown aphid has been reported as occurring in large numbers on plum trees in different parts of the State. (April 21): The southern plum aphid, or rusty plum aphid, is, as usual, abundant throughout Mississippi at the present time. Specimens and complaints have been received from

Copiah, Carroll, Jefferson, Lauderdale, Stone, and Sunflower Counties.

GRAPE

GRAPE FLEA-BEETLE (Haltica chalybea Ill.)

Connecticut — M. P. Zappe (April 17): Beetles are mating and are mostly on main trunks of vines at base of side branches. Beetles are eating holes into buds at Hamden. This is the first outbreak since 1911.

Mississippi — K. L. Cockerham (April 18): The first of these beetles found feeding heavily upon grape and scuppernong vines at Biloxi; some larvae practically grown and the leaves showing rather severe damage. Arsenate of lead applied as a control measure. The reporter did not see the insect doing any damage in this locality during the past few years.

R. W. Harned (April 21): W. L. Gray, Inspector, with headquarters at Natchez, reports on April 17 that flea-beetle larvae are causing damage to grapes in Adams County. The specimens he sent have been identified by J. M. Langston as probably Haltica chalybea. (April 22): Under date of April 20 Inspector R. C. Price at Poplarville sent grape leaves collected from four different properties that were quite seriously injured by the larvae of what we take to be the grape flea-beetle. These insects are attacking both the muscadine and bunch grapes. They have appeared in that section of the State in large enough numbers to do considerable damage.

Arizona — Arizona News Letter, Vol. 3, No. 3 (March 31): During the early part of the past growing season many grape plantings in the Salt River Valley were more or less severely injured by the grapevine flea-beetle. In the Salt River Valley the beetles make their appearance when the vines have made a growth of from 1 to 3 feet. The beetles appear in great numbers and at once start feeding on the buds and tender growth. The leaves are stripped, leaving only the skeleton attached to the vine. The most serious damage is done to the growing buds and terminal shoots. This damage, however, is likely to escape the notice of the grower, who sees only the more noticeable injury to the larger leaves.

CUTWORMS (Noctuidae)

Missouri — L. Haseman (April 9): At Neosho severe damage is reported in several vineyards.

GRAPE SCALE (Aspidiotus uvae Comst.)

Virginia — W. M. Davidson (April 2): This scale has occasioned considerable damage in the vineyard at the Insecticide and Fungicide Board's laboratory at Vienna. While the scale has been present for many

years in the vineyard it appears to be on the increase at this time. A noticeable parasitism is present.

A WEEVIL (Glyptoscelis squamulata Cr.)

California — A. E. Bottel (April 14): Determined by Dr. E. C. Van Dyke as a Chrysomelid, Glyptoscelis squamulata. Attacking grapes in the Coachella Valley, Riverside County.

CURRANT

CURRANT APHID (Myzus ribis L.)

Connecticut — W. E. Britton (April 24): Already forming blisters on partly grown leaves at New Haven.

CURRANT BORER (Synanthedon tipuliformis L.)

Wyoming — C. P. Corkins (April 24): Specimens of a currant borer (probably the imported) have been received from the county agent at Afton. The amount of damage is unknown.

GOOSEBERRY

BLACK GOOSEBERRY BORER (Xylocrius agassizi Lec.)

Oregon — Don C. Mote (March 20): First adult found on gooseberry cane at Salem.

GOOSEBERRY MIDGE (Dasyneura grossulariae Fitch)

Oregon — Don C. Mote (March 20): First-generation adults almost disappeared at Salem. Observed 4 adults in 3 hours.

PECAN

PECAN COSSID (Cossula magnifica Stkr.)

North Carolina — F. Sherman (March 31): The striking borer is of regular occurrence in oak and pecan, but istnot often reported; two reports thus far this year.

CRANBERRY

YELLOW-HEADED FIREWORM (Peronea minuta Rob.)

Massahhusetts — A. I. Bourne (April 25): Mr. Lacroix, from the Cranberry Substation, reports observing overwintering adults of the yellow-headed fireworm flying in abundance on bogs in Plymouth County on April 15, and notes egg laying in full swing. This, he states, is fully two weeks ahead of the usual procedure.

CITRUS AND SUBTROPICAL FRUITS

THREE-LINED FIG BORER (Ptychodes trilineatus L.)

Mississippi R. W. Harned (April 10): This insect seems to be gradually on the increase in the State, and it has now been recorded from the three coast counties. In the spring of 1923 adults of this species were reared from fig twigs collected at Ocean Springs on October 9, 1922. In March, 1925, Troy Thompson, of the U. S. Bureau of Entomology, found the larvae of what is supposed to be this species causing considerable damage to fig trees at Bay St. Louis, and Mr. Kimble Harman, of the Bureau of Plant Industry, found the same insects at work on fig trees in Gulfport.

ROVE-BEETLE (Staphylinidae)

Arizona Arizona News Letter, Vol. 3 No. 3, (March 31): A species of rove-beetle was observed to be very numerous in citrus blossoms on young trees near Scottsdale. Many of the flowers presented a black appearance in the center, because of the great abundance of these insects.

GRAY CITRUS SCALE (Coccus citricola Camp.)

California E. R. Brann (April 18): Injury in Tulare County from February 1 to December 1; $285,000 spent annually in control measures, spraying, and fumigation.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

California T. D. Urbahns (March 31): Citrus trees along streets and in parks in Sacramento were inspected in company with R. S. Woglum for whitefly. Hibernating stages indicate that it will be at least two weeks before adults appear.

OLIVER FRUIT-FLY (Dacus oleae Rossi)

Palestine California Weekly News Letter, Vol, 7, No. 8 (April 18): The olive fruit-fly is a common pest in all parts of Palestine and, together with the tree-boring caterpillars of the leopard moth, it is the primary reason for the poor oil crops of the olive industry there, according to a circular issued in January by the Institute of Agriculture and Natural History of Palestine.
This circular states that the olive fruit-fly in Palestine produces six generations annually in the coastal-plain region and five generations in the mountains. The greatest infestation takes place in the coastal plain areas and the luscious varieties containing the largest amount of oil suffer most. Despite some expressions in scientific literature that indigenous olive trees in Palestine and Egypt will not be attacked by Dacus oleae, this pest has been found on eight of the eleven olive varieties indigeno in Palestine. The reason that the remaining three varieties have to be considered up to date free of Dacus oleae is probably owing only to lack of thorough search.

The damage may be estimated at 20 to 40 per cent in the lesser and 40 to 90 per cent in the more frequently attacked olive varieties.
The biological method of control does not seem to be very promising. Parasites are apparently at their height in August and then decrease rapidly, whereas the olive fruit-fly develops from September onward two or three further generations. Spraying is recommended, four such sprayings being necessary in the coastal-plain region during the summer months.

TRUCK-CROP INSECTS

GENERAL FEEDERS

CUTWORMS (Noctuidae)

Alabama — N. F. Howard (March 27): Cutworms, species undetermined, but probably Peridroma, reported as severely injuring tomato plants shortly after setting in the field.

Mississippi — M. M. High (March 28): Cutworms, Agrotis ypsilon, Feltia sp. and Peridroma saucia, were found rather abundant in southern Mississippi last month injuring truck.

R. W. Harned (April 10): Cutworms have been reported as causing considerable damage in the southwestern part of Mississippi during the past month. Most of these complaints have come from Hinds, Copiah, and Lincoln Counties, but some have come from other counties. The tomato crop has been reported as seriously injured by these insects. Several dozen cutworms received from Inspector H. H. Wedgworth of the State Plant Board at Raymond have been tentatively identified by Mr. H. W. Allen as Feltia ducens.

Arizona — Arizona News Letter, Vol. 3 No. 3 (March 31): Cutworms were observed doing damage to early tomato plants near the Phoenix Indian School. A report of cutworm injury was also received from the office of the country agricultural agent of Maricopa County.

AUSTRALIAN TOMATO WEEVIL (Desiantha nociva Lea)

Mississippi — M. M. High (March 28): The Australian tomato weevil is gradually working its way inland from the coast counties in this State, having been found recently in abundance at Picayune, Poplarville, and Hattiesburg. We have not as yet been able to find this weevil in the trucking section about Crystal Springs, but it appears likely that it will reach this section during this season.

Louisiana — M. M. High (April 2): The Australian tomato weevil during the past week has been found at the following points in Louisiana: Slidell, Covington, Bogalusa, Onvil, Bush, and intermediate

points, It was also found abundant on the Mississippi side of Pearl River opposite Bogalusa, La., south to Nicholson, Miss. In Mississippi it has been found 6 miles north of Hattiesburg or 80 miles from the Coast north. Very young larvae were found about Hattiesburg, indicating that emergence in this region will be several weeks behind that on the coast.

WESTERN TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon — Don C. Mote (March 20): Reported from Corvallis on this date, observed scatteringly on willows and other vegetation.

PAINTED LADY BUTTERFLY (Vanessa cardui L.)

Illinois — W. P. Flint (April 23): Seenmon April 19; two adults of this species observed during the present season to date.

SEED-CORN MAGGOT (Hylemyia cilicrura Rond.)

South Carolina — Philip Luginbill (April 15): Reported attacking garden beans at Columbia, damage being slight.

Mississippi — R. W. Harned (April 10): H. H. Wedgworth, Inspector at Raymond, Miss., on April 8 wrote as follows: "This year the truckers of the Crystal Springs section are losing a small percentage of the English pea crop from a stem-rot (some fields are losing heavily, up to 80 or 90 per cent). This stem-rot is caused by a fungus, Pythium, but in examining the roots of these peas and more especially the old peas that were planted, I have found that it is mined by small maggots, Beans are also affected the same way. The truckers believe the stem-rot is the cause of the trouble, andnot knowing what this maggot is doing, or how it got the pea, I am at a loss for an explanation. I have been unable to find the maggots in any quantity, but am going to send you a few of the peas or beans for examination. The maggot is called the fertilizer worm "by the truckers." The larvae that accompanied this report from Mr. Wedgworth were tentatively identified by J. M. Langston as the seed-corn maggot, Phorbia fusciceps Zett. There seems to be a slight question of doubt as to whether the fungus is the entire cause of the injury to the pea plants. There is a bare possibility that part of this injury may be due to the maggots.

Louisiana — Chas. E. Smith (April 30): This fly larva attacks the seed soon after sprouts aressent out and the attack continues until the plants are a week old or more. The first infestation was noted near Sharp Station, about 7 miles east of Baton Rouge, March 30, 1925, by the writer. Mr. Normal Allen found the same larva, apparently, doing severe injury to cantaloupes at Kenner, April 3. Since that time several other observations have been made in the vicinity of Baton Rouge, and one report was received from Zachary, where the grower reported that three plantings had failed to produce a stand, and that he found a maggot working in the sprouted seed and young plants.

California — R. R. McLean (April 15): Seed-corn-maggots (Phorbia fusciceps Zett.) unusually active this spring in San Diego County, also destroying bean, corn, melon, and cucumber seed. Other maggots have destroyed a number of acres of tomatoes, tunneling up the stems of plants several inches high. The excessive amount of injury is probably due to a succession of dry winters, large numbers of overwintering forms in the soil being able to survive.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

California — R. R. McLean (April 15): Maggots found in cauliflower heads badly infested in San Diego County. Some 100 acres infested. Species not yet determined but probably the western radish maggot or some related species, such as the cabbage maggot, Phorbia planipalpis Stein and P. brassicae Bouche. Attacks possibly induced by successive plantings of cauliflowers and the use of fish meal as a fertilizer, this seeming to attract adult flies.

MOLE CRICKET (Gryllotalpa borealis Burm.)

South Carolina — Philip Luginbill (April 16): Mr. T. B. Malphrus wrote as follows: "We have an insect that runs under the dirt and damages the little plants. Some people call them the English ground mole. They are about one inch long and run about one-half inch under the the dirt and make a little trail like a ground mole." This is evidently the mole cricket.

POTATO

GRANULATE CUTWORM (Feltia annexa Treit.)

Mississippi — R. W. Harned (April 10): Inspector H. Gladney of Ocean Springs sent in 28 cutworms that were collected around Irish potatoes on March 21. These specimens have been determined by Mr. H. W. Allen as the granulate cutworm. Mr. Gladney wrote: "As many as 12 cutworms were found around some of the potatoes. The plants are about 4 inches high."

SOUTHERN GREEN PLANT-BUG (Nezara viridula L.)

Florida — F. S. Chamberlin (April 1): Potato foliage is being slightly damaged by this pest in Gadsden County.

BROWN STINK-BUG (Euschistus servus Say)

Florida — F. S. Chamberlin (April 8): In Gadsden County the potato foliage is being slightly damaged by this bug.

POTATO BEETLE (Leptinotarsa decemlineata Say)

North Carolina — W. A. Thomas (April 8): This insect has shown up in unusual numbers in many of the potato fields at Chadburn and is rapidly depositing eggs on the young foliage. The plants will now average about 3 inches in height and are growing rapidly.

Florida — F. S. Chamberlin (April 10): The first beetles of the season were observed in a potato field today in Gadsden County. Dust applications for the control of this pest will commence next week.

W. H. White (April 28): Specimens of the Colorado potato beetle were sent to the office by B. L. Boyden with the information that Mr. Barney Taylor of Baker County brought the specimens into the laboratory at Macclenny, Fla., stating that they were doing considerable damage to his Irish potatoes. Mr. Boyden says: "This is the first complaint I have heard in Baker County during our seven years there of damage done by the potato beetle. These also are the first specimens I have seen in Florida."

Mississippi — M. M. High (March 28): The Colorado potato beetle has appeared in small numbers on potatoes about Bay St. Louis and Poplarville.

SWEET POTATO

TORTOISE BEETLES (Cassidinae)

Mississippi — J. M. Langston (April 23): Four species of tortoise beetles; Chelymorpha cassidea Fab., Chirida guttata Oliv., Metriona bivittata Say, and M. bicolor Fab., have appeared on recently-set sweet-potato plants on the college farm. Eggs are being deposited by all the species. So far the injury is slight and will probably not become serious.

R. W. Harned (April 21): The argus tortoise beetle was found feeding on sweet potato plants at Laurel on April 16 by Inspector N. D. Peets.

CABBAGE

APHIDIDAE

Mississippi — R. W. Harned (April 22): Inspector R. B. Deen on April 21, 1925, reports that plant-lice are appearing in large numbers on cabbage, plum, and other plants in Lee and Pontotoc Counties.

VARIEGATED CUTWORM (Peridroma margaritosa Haw.)

Alabama — N. F. Howard (March 27): This cutworm is doing severe damage to early cabbage plants on one farm. No counts were made, but it is estimated that 75 per cent of the plants were destroyed. One specimen of another species of cutworm was taken.

HARLEQUIN CABBAGE BUG (Murgantia histrionica Hahn)

Alabama — N. F. Howard (March 24): Abundant on one small field of early cabbage and doing considerable injury, probably 15 per cent of the crop being seriously set back.

Mississippi — M. M. High (March 28): The harlequin cabbage bug was found injuring cruciferous crops in southern and central Mississippi.

R. W. Harned (April 10): On March 26 a correspondent at Auter, Sharkey County, sent in a number of adults of the harlequin cabbage bug, as well as a number of egg masses. These insects were reported as already very abundant this year on cabbage, "turnips, collards, potatoes, and everything else growing in the garden." On the same date another correspondent at Fruitland Park, Forest County, wrote: "These bugs are getting quite thick on cabbage plants and growing cabbage." (April 22): Inspector R. B. Deen reports the harlequin cabbage bug in gardens at Tupelo and Guntown in Lee County on April 21.

CABBAGE WEBWORM (Hellula undalis Fab.)

Mississippi — M. M. High (March 28): The cabbage webworm has been present in some numbers all winter in southern Mississippi, and the moths are now emerging at a rapid rate in the insectary. In this State this is one of the most serious pests that cruciferous crops have, for it is present during most of the growing season.

IMPORTED CABBAGEWORM (Pontia rapae L.)

North Carolina — F. Sherman (March 31): Adults were seen in flight at Raleigh in late February and at any time since then when the weather was warm.

Indiana — H. F. Dietz (April 23): Large numbers of this butterfly were on the wing at Indianapolis April 12. Clusters of six and eight together were frequent. Apple (variety Wealthy) and Cydonia japonica were just beginning to bloom.

Illinois — W. P. Flint (April 23): More numerous than usual in central Illinois.

Alabama — N. F. Howard (March 27): One grower reports having observed adults during the last week.

Mississippi — R. W. Harned (April 22): Inspector R. B. Deen at Tupelo, under date of April 21, reports that he has found cabbage worms doing damage at several places in the vicinity of Tupelo. Under date of April 17 Inspector George E. Riley at Corinth reports that no cabbage worms have been noticed, but that the adult butterflies are very numerous and can be seen in every garden. He has observed them for the last three weeks in the four counties in his territory, Tishomingo, Alcorn, Prentiss, and Tippah.

Oregon — H. A. Scullen (April 5): At Corvallis on this date adults were observed.

STRAWBERRY

STRAWBERRY LEAF-ROLLER (Ancylis comptana Froehl.)

Mississippi — R. W. Harned (April 10): Larvae identified as this species by Mr. J. M. Langston were received from Fayette, Miss., where

it was reported as causing some damage to strawberry plants on March 23.

Wyoming — C. L. Corkins (April 24): Moths of this insect reported by county agent Sheeley as being exceedingly abundant on strawberry beds at Basin. The species is probably Ancylis comptana.

STRAWBERRY CROWN-BORER (Tyloderma fragariae Riley)

Missouri — L. Haseman (April 8): The adults have emerged and are feeding to some extent in the southwestern part of this State. Oviposition has also started. Indications are that the pest will cause considerable damage due to delayed planting of new beds.

STRAWBERRY CROWN MOTH (Synanthedon rutilans Hy. Edw.)

Oregon — B. G. Thomson (March 21): In the Willamette Valley this insect is attacking strawberry plants, having survived the winter, and prospects are favorable for a heavy infestation.

STRAWBERRY ROOT APHID (Aphis forbesi Weed.)

North Carolina — F. Sherman (March 31): Reported from the southeastern section of the State.

WHITE GRUBS (Phyllophaga spp.)

North Carolina — F. Sherman (March 31): Complained of in strawberry beds in grass lands and in tobacco seed-plant beds.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

North Carolina — F. Sherman (March 31): We have a report of injury from our commercial strawberry section in the southeastern part of the State.

Missouri — Haseman & Wade (April 20): The strawberry weevil is reported destructive along the Missouri River.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

North Carolina — F. Sherman (March 31): We are receiving some preseason inquiries regarding this pest in the western part of the State, which usually allude to serious damage last year, or in the years before.

Alabama — N. F. Howard (March 26): Epilachna corrupta has not yet been taken in the field. There has not been much variety in hibernation cages. Very few beetles have been collected in the woods in hibernation in this district. It is believed that the survival has been low. The beetles did not emerge last year until the third week in April, but will no doubt appear two weeks earlier this year.

Mississippi R. W. Harned (April 21): Inspector George E. Riley reports that on February 7 he found a Mexicam bean beetle crawling on the ground in a garden at Corinth, Miss. This is the only report so far received in regard to this insect in Mississippi during 1925.

BEAN LEAF-BEETLE (Cerotoma trifurcata Foerst.)

Mississippi K. L. Cockerham (April 14): First adults noted at Biloxi and collected on above date; bean foliage showing feeding marks. Females were noted with distended abdomens, indicating that egg deposition would start early.

J. M. Langston (April 15): A number of beetles were observed on bean foliage during the middle of the day. They usually feed mornings and evenings.

R. W. Harned (April 22): The bean leaf-beetle seems to be abundant in many sections of the State at the present time. This insect is always a rather serious pest to beans in Mississippi early in the spring. This year they seem to be more abundant than usual.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Florida F. S. Chamberlin (April 20): At Quincy, garden peas were heavily infested with the aphis.

Louisiana C. E. Smith (April 20): Several severe infestations have been noted in the vicinity of Baton Rouge, during the spring.

California Roy E. Campbell (April 12): A heavy flight of aphids was observed about noon at Lick observatory on Mount Hamilton, at an elevation of 4,200 feet. It was sunny and warm, but there was no wind. The source of the aphids was not known, but probably was some leguminous plants in the mountains. Heavily infested pea fields were 25 miles away near San Jose, but in these the aphids were preponderantly wingless. (April 18): At San Jose, since January 1, the daily mean temperature has averaged about 2° above normal, which favored a gradual increase in the aphid infestation. Damage became evident about the first of April, and gradually increased. Warm weather in the middle of April caused an early ripening of the crop, or the damage would have been much greater, It is possible that there will be a 25 per cent loss, possibly more.

CUCUMBERS

MELON APHID (Aphis gossypii Glov.)

Florida F. S. Chamberlin (April 3): Young cucumber plants under cloth shade are becoming infested with the melon aphis. Self-mixed nicotine dusts are being applied with good results in Gadsden County. No damage to the plants has resulted as yet.

POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

Mississippi M. M. High (March 28): The cucumber flea-beetle was found doing damage to young eggplant and cucumbers about Long Beach and Bay St. Louis.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Mississippi R. W. Harned (April 21): W. L. Gray, inspector with headquarters at Natchez, reports that lima beans, cucumbers, squash, and watermelons are being seriously injuredin Adams County by the striped cucumber beetle. With the specimens of beetles and larvae that he collected on these plants, he sent the following memorandum: "The adult eats the stem near the ground. The larva eats or bores in the roots. The twelve-spotted beetles were also present."

Louisiana Chas. E. Smith (March 30): Infestation was on the place of R. L. Fugler, 7 miles east of town on the Greenville Springs Road. The crops attacked were growing adjacent to ground on which watermelons and cantaloupes were grown in the fall of 1924. This was the first infestation noted this spring, and it is earlier than usual for the species to occur.

DIABROTICA SP.

Mississippi H. W. Harned (April 21): Inspector J. E. McEvilly of McComb reports on April 17 that garden beans are severely injured in small gardens throughout McComb, by insects that Mr. J. M. Langston has determined as the larvae of some species of Diabrotica. It is hoped that we will be able to rear these insects for definite determination.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.

Alabama N. F. Howard (March 23): On this date this insect was very numerous on early cabbage and considerable damage was done to some plants. Injury to the field as a whole was not over 10 per cent. This form hibernates as an adult and is frequently taken in the woods when searches are made for Epilachna corrupta. (March 24): Diabrotic 12-punctata abundant on early cabbage about 12 miles distant from this field. Damage about the same.

RADISH

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Oregon Don C. Mote (April 11): At Salem adults were fairly numerous on above date. Caught a dozen flies in from 15 to 20 minutes. At Corvallis, on April 17, minute larvae observed entering radishes.

RADISH WEEVIL (Cleonus sparsus Lec.)

Oregon — B. G. Thomson (April 13): First adult observed on sidewalk at Corvallis on March 23. Adults numerous April 10.

HORSERADISH FLEA-BEETLE (Phyllotreta armoraciae Koch)

Illinois — W. P. Flint (April 23): Reported causing serious injury in southwestern Illinois on April 22.

TURNIPS

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Mississippi — M. M. High (March 28): The turnip louse was found abundant on turnip about Crystal Springs.

SPINACH

MELON APHID (Aphis gossypii Glov. and GREEN PEACH APHID Myzus persicae Sulz.)

California — T. D. Urbahns (April 20): At Sacramento these insects were abundant on spinach. Syrphid fly larvae are becoming so abundant that canneries are rejecting the spinach on account of these larvae. Many large fields are a total loss; others will be kept for growing seed.

COTTON

BOLL WEEVIL (*Anthonomus grandis* Boh.)

GENERAL STATEMENT

Cooperative Report on Boll Weevil Emergence from Cage Tests Prior to April 1. (U. S. Bureau of Entomology, Delta Laboratory, Tallula La.).

At a recent meeting of the State and Federal entomologists engaged in experimental work on the cotton boll weevil, a cooperative system was devised for the purpose of compiling and disseminating information on boll-weevil survival in hibernation. It was found that hibernation cage tests had been installed at eight different points ranging from Texas to North Carolina last fall and it was agreed by the investigator in charge of each of these series of experiments to report the emergence results on the 1st and 15th of each month during the emergence period to the Tallulah Laboratory of the U. S. Bureau of Entomology. At that point, the figures are compiled and analyzed with a view of determining as nearly as possible probable weevil infestation at the different points represented. The locations of these cooperative stations are as follows:

Baton Rouge, La. - Louisiana State Experiment Station, Dr. W. E. Hinds cooperating.
Tallulah, La. - U. S. Bureau of Entomology, Delta Laboratory.
Florence, S. C. - Joint Station, South Carolina State Experiment Station and U. S. Bureau of Entomology, Dr. F. A. Fenton cooperating.
Clemson College, S. C. - South Carolina State Experiment Station, Professor H. W. Barre cooperating.
Aberdeen, N. C. - North Carolina State Experiment Station, Professor Franklin Sherman cooperating.
Rocky Mount, N. C. - North Carolina State Experiment Station, Professor Franklin Sherman cooperating.
College Station, Tex. - Texas State Experiment Station, Dr. F. L. Thomas cooperating.
Holly Springs, Miss. - Mississippi State Experiment Station, Mr. C. T. Ames cooperating.

The records which have been received at the Delta Laboratory to date include observations up to the first of April and thus are of course of a decidedly preliminary nature and do not warrant as general conclusions as can be drawn from the later records. The most significant feature so far is the exceedingly high emergence at Florence, S. C. It happens that the same series of cages were installed at that point both last year and this year and it is especially interesting to compare the results. On the first of April, 1924, only 6 weevils had emerged from the entire series of cages whereas on the first of April, 1925, 349 weevils had emerged or 58 times as many as in the preceding year. This verifies other observations to the general effect that a heavy initial emergence of weevils may be expected in the Southeastern States.

At the other points comparatively few weevils had emerged although some were reported from every station except the one at Holly Springs, Miss., and it is still too early to predict just what the results are likely to be.

GENERAL STATEMENT

Cooperative Report on Boll Weevil Emergence from Cage Tests Prior to April 16. (U. S. Bureau of Entomology, Delta Laboratory, Tallulah, La.).

Weevil emergence at the different cooperative points has continued to be much the same as indicated in the report of April 1. One additional cooperative station has been added since that time. This is the station at Experiment, Ga., of the Georgia Agricultural Experiment Station with Mr. R. P. Bledsoe cooperating.

The percentage of weevils placed in the cages last fall which had emerged prior to April 16 at the different points is shown in the following table:

Locality	Per cent of number put into cages which have emerged
College Station, Tex.	3.54
Baton Rouge, La.	2.69
Florence, S. C.	2.49
Clemson College, S. C.	1.78
Experiment, Ga.	.58
Aberdeen, N. C.	.37
Rocky Mount, N. C.	.14
Tallulah, La.	.01
Holly Springs, Miss.	0.00

The above figures are most interesting when compared with such earlier records as are available. In Texas, for instance, we have records at points near College Station for the years 1906, 1907, and 1908. The average total survival for those years was 5.2 per cent and the average survival which had emerged by April 15 for the same period was 4.6 per cent. It will be noted that in this year 3.54 per cent have emerged so far which would seem to indicate that the survival is at least approaching a normal one.

At Tallulah the nine-year average total survival is 1.51 per cent and about 25 per cent of the total emergence has been completed by April 15 in the average year. It will be noted that the survival this year is much below any such indication. This is difficult to explain except on the possibility that the weevils entering hibernation last fall were not sufficiently well fed to withstand the winter weather. Certainly, there was a tremendous shortage of squares for food for the weevils entering hibernation.

The Florence, S. C., record is probably more or less representative of the Southeastern States as a whole, and it is interesting to compare the records this season with those that were secured in an identical series of experiments last year. In the spring of 1924 there was a total emergence of 0.35 per cent and the emergence prior to April 16 was 0.11 per cent. This year, however, the emergence prior to April 16 is 2.49 per cent, thus continuing to indicate the high probable infestation in that territory.

It is also interesting to note the weevil emergence progressing at both North Carolina points, thus indicating that the weevils have been able to survive the winter in fair numbers even that far North.

North Carolina — Franklin Sherman (March 31): Although 1924 witnessed very light injury in this State on an average, yet there was much rain at the very close of the season and weevils then seemed to develop in great numbers. We, therefore, believe that approximately a normal number entered hibernation. In our hibernation cages at Aberdeen two adults had come into the open by mid-March, but no more have been seen since.

Texas — T. C. Barber (April 15): Initial boll-weevil infestation is rather heavy for the season, many people mentioning observing weevils in the cottonfields. Today the writer examined 600 lineal feet of cotton row in a 40-acre field 5 miles east of Brownsville and collected 20 weevils. Since the cotton rows were 4 feet apart, this indicated an average of more than 360 hibernated weevils per acre of cotton.

CUTWORMS (Noctuidae)

Mississippi — R. W. Harned (April 22): On April 16 Inspector R. C. Price at Poplarville reported early cotton severely damaged by cutworms. In one experiment station plot four rows had to be replanted because of cutworm injury. He reports that an average of 10 per cent of the plants in the fields around Poplarville are being cut down by cutworms. This includes tomato, corn, and cotton.

Texas — T. C. Barber (April 10): Considerable complaint of cutworm injury to young cotton seedlings is heard over the lower Rio Grande Valley section, in some cases the stand being injured so badly that replanting is necessary.

TOBACCO

GRASSHOPPERS (Acridiidae)

Florida — F. S. Chamberlin (April 7): Large numbers of grasshoppers are hatching out in grass lands adjoining tobacco fields in Gadsden County. Control measures are most easily practiced at this time.

TOBACCO THRIPS (*Frankliniella fusca* Hinds)

Florida — F. S. Chamberlin (April 1): Newly set tobacco at Quincy is becoming infested with thrips.

TOBACCO BUDWORM (Heliothis virescens Fab.)

Florida F. S. Chamberlin (April 6): Eggs of the tobacco budworm were found at Quincy on April 6 for the first time this season. This insect usually appears somewhat earlier in this locality. There is no damage yet.

TOBACCO HORNWORM (Protoparce sexta Joh.)

Georgia F. S. Chamberlin (April 21): The first eggs and larvae of the tobacco hornworm observed this season were found in a field near Tifton.

TOBACCO FLEA-BEETLE ((Epitrix parvula Fab.)

Florida F. S. Chamberlin (April 10): Newly set tobacco is moderately infested with newly emerged flea-beetles in Gadsden County.

RICE

RICE STINK-BUG (Solubea pugnax Fab.)

Louisiana J. W. Ingram (April 18): The first rice stink-bugs of the season were observed feeding on grass near Crowley on the night of April 17. The majority of these hid themselves during the daytime, as a much smaller number was observed feeding on the following day than was feeding the night before.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana J. W. Ingram (April 21): Sugarcane beetles have been found feeding on young rice in many fields in southwestern Louisiana. In some cases the stand of rice has been seriously reduced. Where the rice was of sufficient size to permit it, the beetle has been destroyed by flooding the fields.

SUGARCANE

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana J. W. Ingram (April 9): The growing points of a number of sugarcane plants were found dead in a field of cane on the station farm at Crowley. Upon investigation the damage was found to be caused by the sugarcane beetle, Ligyrus rugiceps.

MISCELLANEOUS FEEDERS

GIPSY MOTH (Porthetria dispar L.)

New Hampshire — P. R. Lowry (April 23): Egg masses are quite scarce in the locality of Durham.

Massachusetts — A. I. Bourne (April 25): Reports from the eastern end of the State indicate that the gipsy moth is much reduced in numbers.

BROWN-TAIL MOTH (Euproctis chrysorrhoea L.)

Massachusetts — A. I. Bourne (April 25): Reports from the eastern end of the State indicate that the brown-tail moth is much reduced in numbers, although locally in certain sections it seems to be still abundant enough to threaten some injury if control measures are not put into practice.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Indiana — J. J. Davis (April 23): Many reports have been received from the southern third of the State. Most examples received occurred on cedars.

CAMPHOR

CAMPHOR SCALE (Pseudaonidia duplex Cell.)

GENERAL STATEMENT — H. K. Plank (April 2): Careful search for this pest to date, especially on its host plants which were sent from New Orleans, La., and Alvin, Tex., during the past nine years, revealed the presence of the camphor scale in several Southern States, i. e., at Belfontaine (12 miles south of Mobile), Grand Bay, Irvington, and Shoreacres (5 miles south of Mobile) in Alabama; at Biloxi, Hattiesburg, Jackson, and Pass Christian in Mississippi; at Destrehan, Franklin, Gentilly, Hammond, Jennings, Kenner, Lake Charles, New Orleans, Rayville, St. Rose, and Waggaman in Louisiana; and at Alvin, Arcadia, and Houston in Texas. Following prompt eradication measures by the Mississippi State Plant Board, no camphor scales have since been found in that State. Although it is still to be found in the other three States, its abundance, particularly in Alabama and Louisiana, was somewhat affected by the freeze of January, 1924, when the thermometer went to from 10° to 19° F. on at least one occasion.

The camphor scale seems to have recovered, however, from this slight setback, especially where there was little or no freezing of its hosts, and has apparently survived the past winter (1924-1925) with very little loss, the lowest temperature recorded at New Orleans having been 31° F. on December 21, whereas in this locality about 51 per cent of the adult female scales were found dead from all causes during about six weeks (January 22 to February 28, 1924) following the freeze of January, 1924, the total

mortality during about the same period this year (January 6 to February 13, 1925) is placed at approximately 17 per cent of the 5,168 adult female scales examined. These periods are reckoned 16 days after the lowest temperature of each winter was recorded, since it took this length of time for the scales to react sufficiently to the cold to afford accurate identification as to the cause of mortality. The percentage of dead adult female scales from all causes during the four weeks before the freeze of 1924 was about 28; the dead this winter for the same period was about 15 per cent of the 3,970 adult female scales examined. The lower percentages of mortality during the past winter appear to be due to lack of freezing weather and to the absence of natural enemies, as comparatively few scales have been noticed killed by natural causes, parasites, and predators in New Orleans during the winter 1924-1925.

Therefore the camphor scale in New Orleans, the region of heaviest known infestation, starts the year in what may be said to be nearly, if not quite normal abundance. The increase during the coming season bids fair to be reasonably great, especially when viewed in the light of the fact that the season here is about two weeks earlier than last year. This might also be said of southern Alabama since weather conditions there are nearly the same.

Eradicative measures, in which 2 per cent lubricating-oil emulsion (standard Government formula) was to be used, were started in southern Alabama last winter, where a successful clean-up in some Satsuma orchards was secured with this material in 1922. Spraying of the camphor trees in the parks and along the streets of New Orleans by the Parking Commission, carried out with much success in 1924, is being followed this year as a general policy. Pruning and spraying of infested plants in Houston, Tex., under the direction of the Chief Nursery Inspector of the Department of Agriculture of that State was started in 1924 with a view to eradication in that locality. Injury by this pest is, therefore, expected only locally, especially on private property where proper treatment can not or is not given the plants infested.

FIR

AN APHID (Chermes piceae Ratz.)

ine

E. M. Patch (April 22): Heavy infestation on trunks of old fir balsams (Abies balsamea) on a place at South China.

ELM

ELM LEAF-BEETLE (Galerucella xanthomelaena Schr.)

rginia

Monthly Letter, Bureau of Entomology, No. 131 (March): William Middleton, of this office, recently visited the Taylor estate near Trevilians, taking down a number of cages of elm leaf-beetles parasitized to a considerable extent by the dipteron Erynnia nitida R. D., received from Dr. W. R. Thompson, of Hyeres, France. With this material it is proposed to establish the parasite Erynnia nitida in this country.

California

T. D. Urbahns (March 30): Under date of March 21 A. C. Fleury reported adult beetles as being active on the tree trunks at Fresno. None were seen feeding.

Weekly News Letter, State of California Department of Agriculture, Vol. 7, No. 8 (April 18): Unfortunately a serious elm pest, the European elm leaf-beetle has become established in this State with its center of infestation at Fresno. It was first reported in June of last year. This beetle has been in the far eastern States many years, but never nearer to California than northern Oregon. Just how it was carried to California is not known. These beetles attack the elms, but as far as is now known they do not destroy other shade trees.

The natural spread of these beetles is very rapid. They are active in flight and alight upon people, automobiles, and other objects. The full-grown larvae or grubs crawl down the tree trunks or fall from the trees. Both beetles and grubs alighting on automobiles parked under elms may be carried long distances. By the end of the year light infestations were found on elm trees in other towns of the San Joaquin Valley, including Malaga, Selma, Kingsburg, Orosi, Sultana, Dinuba, Reedley, Sanger, Sunnyside, Clovis, and Visalia.

In the Eastern States two generations of beetles usually develop in one season. At Fresno apparently four generations developed last year which resulted in the very rapid increase of the beetles. Our long growing season and the successive generations extend the period of attack on elms over about seven months. Control measures, therefore, are much more difficult than under northern climatic conditions.

MAPLE

GLOOMY SCALE (Chrysomphalus tenebricosus Comst.)

Mississippi

R. W. Harned (April 22): Inspector R. B. Deen, under date of April 21, reports that maple trees are being severely attacked by the gloomy scale in Tupelo. He says, "They seem to be more numerous than usual."

OAK

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouché)

Mississippi

R. W. Harned (April 21): The European lecanium is appearing in great numbers at various places throughout the State, especially on oak trees. Specimens received from Aberdeen, Tylertown, and Purvis on water oak; specimens received from Laurel and Hattiesburg on live oak, and specimens received from Fayette on cherry and Chinese Incense Apple have been identified by Prof. Pettit and Miss McDaniel, of the Michigan Agricultural College, as Lecanium corni.

PINE

PINE BARK LOUSE (Chermes pinicorticis Fitch)

Indiana — J. J. Davis (April 23): Received April 19 from Spiceland where it was reported as abundant on pine.

POPLAR

COTTONWOOD TENT CATERPILLAR (Malacosoma californica Pack.)

Arizona — Arizona News Letter Vol. 3, No. 3 (March 31): The cottonwood-tree tent caterpillar was observed to be extremely numerous during the early part of March in certain sections of the Salt River Valley. Native cottonwoods near the bed of the Salt River were completely defoliated as was also a territory approximately three miles south of Phoenix. Probably the most abundant outbreak of the caterpillar was near the Phoenix Indian School where practically all of the cottonwoods of the immediate vicinity were completely defoliated. A number of complaints were made to the office of the State Entomologist that the "worms" were entering dwellings and thus making themselves a nuisance. Several cases were observed where the foliage of rose bushes and fruit trees had been eaten by the caterpillars.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

North Carolina — F. Sherman (March 31): The four complaints which we have received of this insect in the last three monthsare more than usual.

APHIDIDAE

Georgia — Oliver I. Snapp (April 14): At Fort Valley aphids have been unusually abundant this spring, especially on ornamentals.

LEPIDOPTEROUS LARVA

Louisiana — T. E. Holloway (April 15): A large lepidopterous larva has been reported as injuring lawns and golf greens in New Orleans. Dr. R. D. Rands, of the Bureau of Plant Industry, has just sent us specimens from Houma, La., where "large areas of pasture are being killed out and the townspeople are having trouble with it in their lawns." The larva tunnels through the soil. It is reported that it can be controlled with carbon-disulfide emulsion.

SOWBUGS

Louisiana — T. E. Holloway (April 23): Sowbugs were found abundant at New Orleans in a flower garden. They were said to be injuring vario ornamental plants.

IRIS

IRIS ROOT-BORER (Macronoctua onusta Grote)

Indiana — H. F. Dietz (April 15): Eggs of the iris root-borer began hatching at Indianapolis April 14. This is fully a month ahead of th first hatching of eggs in 1924.

LILAC

ASH BORER (Podosesia fraxini Lugger)

North Carolina — F. Sherman (March 31): One complaint, the correspondent reporting the loss of about a dozen fine lilac bushes in recent years from this cause.

NARCISSUS

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Pennsylvania — C. A. Weigel (April 15): Under date of April 13, Mr. Doucette, in charge of our field station at Willow Grove, Pa., reports that a florist in the vicinity of Philadelphia has lost about 30,000 out of a total of 40,000 bulbs. It appears as if the organism responsible for the injury is the cyclamen mite, Tarsonemus pallid Banks, or a closely related form. According to Mr. Doucette's statement these bulbs produce only one-third as many flowers as normal bulbs. Flowers produced were one-half to 1 inch less in diameter than normal flowers and the stems were 2 inches shorter than normal flowers. The bulbs were tulip and Narcissus bicolor.

ROSE

APHIDIDAE

Arizona — Arizona News Letter, Vol. 3, No. 3 (March 31): Aphids or plantlice were reported, in a telephone message from a grower near Phoenix, as abundant on roses.

ROSE APHID (Macrosiphum rosae L.)

Texas — O. G. Babcock (April 14): At Sonora this insect is attacking roses; not numerous except on a very few roses, winged forms just beginning to appear.

GREENHOUSE LEAF-TYER (Phlyctaenia rubigalis Guen.)

Maryland — E. N. Cory (April 15): Doing serious damage to violets at end of crop, so financial loss nil; transferring to sweet peas in same greenhouse at College.

INSECTS AFFECTING MAN AND DOMESTIC ANIMAL

MAN

FLEAS (Siphonaptera)

Indiana — J. J. Davis (April 23): A correspondent from Greensburg on April 19 reports considerable trouble with hog fleas the past two summers. Last year numerous reports were received from various sections of the State, reporting trouble with fleas in hog houses.

Missouri — Haseman and Wade (April 20): Fleas attracting attention around farm buildings in the central part of the State where they are reported as beginning activity earlier than usual.

MOSQUITOES (Culicidae)

Mississippi — R. W. Harned (April 22): Mr. Troy Thompson reported that mosquitoes were very abundant at Lakeshore in Hancock County during the past week. He did not mention the species and did not send any specimens for determination.

HOUSE FLY (Musca domestica L.)

Texas — O. G. Babcock (April 16): Fly trappings showed the following per cent of flies caught to be the house fly.

Month	Year	Per cent
Nov. 11	1924	6
Feb. 18	1925	0
Mar. 4	1925	0
Mar. 12	1925	0
Apr. 2	1925	0
Apr. 7	1925	0
Apr. 11	1925	3
Apr. 16	1925	Trace

The house fly is more numerous than trap records would indicate but in comparison to the large number of blow-flies present the total percentage would indicate the house fly as being less numerous than it really is. House-fly bait not used.

SPOTTED FEVER TICK (Dermacentor venustus Banks)

Montana — R. A. Cooley (March 27): The spotted-fever tick made its first appearance in the Bitter Root Valley very close to Feb. 15. The season has been unusually warm and favorable for the early appearance of ticks.

PUSS CATERPILLAR (Lagoa crispata Pack.)

North Carolina — F. Sherman (March 31): The recent bulletin of the United States Department of Agriculture on this insect depicts it as having bee epidemically serious in Texas for several years. It is of regul occurrence here and we receive an average of several reports per year, frequently complaining of "stings" by the larva. A cocoon was sent in for identification during February.

CATTLE

HORN FLY (Haematobia irritans L.)

Missouri — Haseman & Wade (April 20): The horn fly on April 15 was quite abundant on livestock in the central part of the State.

Texas — E. W. Laake (April 10): The horn fly is being held in check by the extreme dry weather this spring. The numbers vary from none to 50 per animal in dairy herds near Dallas. Some individuals are fighting considerably.

O. G. Babcock (April 16): Very few in numbers the last of March at Sonora, approximately 10 to 15 per animal. Today, April 16, barely averages one fly to the animal (cattle). None observed upon sheep.

D. C. Parman (April 21): Owing to the hot, dry weather at Uvald it is rare to observe a single specimen of the horn fly unless observations are made in low, heavily timbered places, and in suc places it is rare to see more than 10 to 15 flies on cattle.

SCREWWORM (Chrysomya macellaria Fab.)

Texas — E. W. Laake (April 13): The first adults of the screwworm were trapped at a local packing house on March 20. Trappings during the last week average 6 per cent of this species.

O. G. Babcock (April 16): Damage by this insect at Sonora is slight.

Feb. 18 . . . . . no specimens in trap
Mar. 4 . . . . . no specimens in trap
Mar. 12 . . . . . Trace of screwworms in trap
Apr. 2 . . . . . No screwworm flies in trap
Apr. 7 . . . . . 4 per cent screwworm flies in trap.
Apr. 11 . . . . . 17 per cent screwworm flies in trap.
Apr. 16 . . . . . 52 per cent screwworm flies in trap.

A few cases of screwworms in animals are appearing but as yet not numerous. The prospects, especially if it rains a little, are very promising for many screwworm cases.

D. C. Parman (April 21): The adult has increased about 50 per cent during the month and an average of 90 per cent of the flies taken in traps at Uvalde are the screwworm flies. A few cases of worms are appearing and the outbreak of heavy infestations probably depends upon weather conditions. The continued dry, hot weather will not allow development, but should rainfall be sufficient during the next month great numbers of flies would breed in the animals dying of poverty.

STABLE FLY (Stomoxys calcitrans L.)

exas E. W. Laake (April 10): Several stable flies on dairy cattle, probably averaging 4 to 6 per head.

OX WARBLE (Hypoderma lineatum DeVill.)

orth Carolina F. Sherman (March 31): A county agent sent fragments of the adult fly on March 24, which seems to me early for the adult to be on the wing. However, this is the first actual specimen of the adult which we have had, though we received occasional inquiry about "wolves" in cattle.

ndiana J. J. Davis (April 23): The number of requests for methods of control of this insect indicates its general prevalence.

exas E. W. Laake (April 10): Several dairy herds in the vicinity of Dallas were examined and found to be free from grubs in the back. (April 22): Adult activity which began early in February and reached its height about March 15 has now ceased entirely.

SHORT-NOSED CATTLE LOUSE (Haematopinus eurysternus Nitzsch)

ew Hampshire P. R. Lowry (April 3): Cattle lice at Durham have not been common this year, the short-nosed cattle louse being the one usually present, though Linognathus vituli L. and Trichodectes scalaris Nitzsch have occasionally been found.

ebraska L. H. Swenk (March): The short-nosed cattle louse was the subject of a report of serious infestation of two-year-old heifers on a stock farm in Fillmore County during this month.

COMMON BLUE SUCKING LOUSE (Linognathus vituli L.)

exas O. G. Babcock (April 16): Present but not in excessive numbers this winter at Sonora. More common on calves.

SPINOSE EAR TICK (Ornithodoros meglini Duges)

Texas — O. G. Babcock (April 13): Present in average numbers at Sonora in the ears of cows and calves. Pear stage and adults still present. Now averages 2 to 8 pear stages to the ear and in some cows 2 to 4 spiney stages to the ear.

CANYON HORSE-FLY (Tabanus rubescens Bellardi)

Texas — D. C. Parman (April 21): The canyon horse-fly has begun to appear in the lower canyons at Uvalde, the first specimen having been observed on April 18. A few were probably present before that date, as probably as many as 10 adults were observed in the lower canyons during the afternoon.

SHEEP AND GOATS

SHEEP TICK (Melophagus ovinus L.)

New Hampshire — P. R. Lowry (February 10): Quite common at Durham, appearing to be more numerous on two flocks examined than for the last two or three years.

Indiana — H. F. Dietz (April 15): A heavy infestation of this insect on sheep near Indianapolis was reported on this date.

J. J. Davis (April 23): A correspondent from Martinsville on March 17, and one from Cloverdale on February 27, report trouble with sheep ticks.

Texas — F. L. Thomas (April 11): Owner of sheep at Balmorhea, Reeves County, stated that he never had these until he received two sheep bought in Ohio.

BLACK BLOW-FLY (Phormia regina Meig.)

Texas — O. G. Babcock (April 16): At Sonora woolworms in sheep wool not bad this year to date. A few cases are reported however. Flytrapping records show the following:

Month	Year	Per cent
Feb. 18	1925	77
Mar. 4	1925	70
Mar. 12	1925	75
Apr. 2	1925	43
Apr. 7	1925	61
Apr. 11	1925	71
Apr. 16	1925	42

FOOT LOUSE (Linognathus pedalis Osborn)

Texas O. G. Babcock (April 16): For the last five years no severe outbreak of the foot louse in western Texas has been observed. Present in very small numbers. Appears to be more numerous in the fall and winter months. Usually difficult to find.

HAIRY RED GOAT LOUSE (Trichodectes hermsi K. & N.)

Texas O. G. Babcock (April 16): At Sonora this insect seemed to be more generally distributed in flocks this year in noticeable quantities than formerly. Probably from 5 to 10 per cent infestation on an average in undipped flocks. On the whole more dipping than usual has been carried on this winter.

COMMON GOAT LOUSE (Trichodectes climax Nitzsch)

Texas O. G. Babcock (April 16): More numerous at Sonora this winter than usual in herds where dipping was not carried on. Fully 50 per cent of such goats were grossly infested. This resulted in a considerable loss in mohair.

SUCKING GOAT LOUSE (Lignognathus stenopsis Burm.)

Texas O. G. Babcock (April 16): This louse has been lighter this winter than for the last five years at Sonora. Difficult to find in any herd examined. This is even true in herds where no dipping was carried on. In one herd in particular the lice would continue to die off, and decrease instead of increase in numbers.

POULTRY

CHICKEN MITE (Dermanyssus gallinae Redi)

Texas O. G. Babcock (April 16): Doing considerable damage to poultry at Sonora where the houses have not been properly treated for mites and "blue bugs."

E. W. Laake (April 20): Chicken mites are abundant and causing considerable injury where they are not being controlled.

FOWL TICK (Argas miniatus Koch)

Texas O. G. Babcock (April 16): Owing to more interest taken in combating this severe poultry pest there have not been so many complaints this year at Sonora. It appears that this tick has not been as active as usual this winter.

CHICKEN HEAD LOUSE (Lipeurus heterographus Nitzsch)

Texas D. C. Parman (April 21): The head louse has been present in practically all flocks examined at Uvalde. The infestations in the flocks are usually rather general and some hens have as many as 25 to 30 lice. This louse has probably been responsible for some of the losses in young chickens.

LARGE HEN LOUSE (Menopon biseriatum Piaget)

New Hampshire — P. R. Lowry (April 3): Chicken lice have not been common this spring at Durham, although this species has been found in small numbers in all flocks examined.

Texas — E. W. Laake (April 20): Chicken lice are abundant, particularly the body louse. Inquiries as to control methods are being received at this station almost daily.

D. C. Parman (April 21): The body-louse infestations have been found quite generally in examining farm and ranch flocks at Uvald and some of the hens have been observed to have as many as 1,000 to 1,500 lice and many masses of eggs as big as a pencil.

STICKTIGHT FLEAS (Echidnophaga gallinacea Westw.)

Mississippi — R. W. Harned (April 22): Inspector R. C. Price of Poplarville reports on April 16 that three poultrymen at Poplarville have reported the sticktight flea among their chickens.

Texas — D. C. Parman (April 21): The sticktight flea has continued to increase rapidly during the month at Uvalde and appreciable loss has been had from deaths, especially in young stock. This condition prevails throughout southwestern Texas. The loss will probably be about $1,000,000 in this territory during the month.

INSECTS INFESTING HOUSES AND PREMISES

TERMITES

Maryland — T. E. Snyder (April 14): There have recently been several cases in the vicinity of Chevy Chase, Md., where rather expensive buildings were purchased and within one or two years extensive repairs had to be made owing to damage by termites.

On September 24, 1924, there was a large "swarm" or colonizing flight of the termite Reticulitermes virginicus Banks from the woodwork of the small insectary of the Truck Crops Division, in the rear of the main Entomology building. On October 7, 1924, another large swarm of winged adults emerged. On April 11, 1925 at about 1.30 p. m., a large swarm of R. virginicus emerged from the woodwork of two other buildings, one a greenhouse and the other occupied by the Division of Deciduous Fruit Insects. These buildings are about 50 feet apart and it is possible that only one colony of termites is involved; the insects travel through the ground; hence insulation of untreated woodwork from the ground is the only preventive. These buildings were built hastily and cheaply in times of stress. However, these cases should demonstrate the need of modification of city building regulations so as to prevent this damage and protect the householder. Often, after a large purchase price, one or two years later a family has to expend several hundred dollars in rebuilding foundations, due to improper construction and consequent infestation by termites.

A MITE (Tyroglyphus lintneri Osb.)

Alabama

N. F. Howard (March 27): Early in March an unusual infestation of a mite determined by Dr. H. E. Ewing as Tyroglyphus lintneri Osb. was called to our attention. Myriads of the mites covered a new steel household refrigerator and the food-stuffs in it. Investigation indicates that the infestation originated in the insulating material. No damage was done by the mites except that they were so numerous that they became an annoyance and the ice box had to be removed from the dwelling.

BOXELDER PLANT-BUG (Leptocoris trivittatus Say)

Nebraska

M. H. Swenk (March): Complaints of annoyance in houses by the boxelder bug continued to come in during the early part of March.

EUROPEAN EARWIG (Forficula auricularia L.)

Oregon

Don C. Mote (March 21): At Portland and Albany adults and eggs are quite abundant.

TURKISH LEAD-CABLE BORER (Sinoxylon sexdentatum Oliv.)

Turkey

Monthly Letter of the Bureau of Entomology No. 131 (March): The office of the Consulate General, Constantinople, Turkey, reports, on February 28, 1925, that the Turkish lead-cable borer (Sinoxylon sexdentatum Oliv.) during the last year caused breaks in service wires in and near Constantinople. The insects bore into any part of the cable, whether near the hangers or not, and polished surfaces as well as rough are attacked. "Bonita" suspension rings are of no avail. It has been necessary to repair cables seven to eight times in a run of 50 meters. The areas particularly affected are as follows in the order of density of fault:

1: Both shores of the Golden Horn.
2: The Asiatic shore of the Bosphorus for a distance of about 8 kilometers from Cartal to Bostandjik.
3: The European shore of the Bosphorus for a distance of about 10 kilometers from Bebek north.
4: The North shore of the Marmora for a distance of 9 kilometers near Makrikeuy and San Stefano.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Texas

E. W. Laake (April 23): This office has received about the usual number of calls for this time of the year in regard to Argentine ant infestations.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 June 1, 1925 Number 3

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

INSECT PEST SURVEY BULLETIN

ol 5 June 1,1925 No.3

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR THE MONTH OF MAY,1925

This month has been marked by more widespread cutworm injury than any imilar period during the past four years. Notes on the destruction of large atches of pasture and corn in Ohio, Iowa, Missouri and Kansas, and reports of erious cutworm damage in northern Michigan, Connecticut, Indiana, Illinois, Idaho, nd California have been received. The outbreak of the army cutworm in the Middle est has about terminated, heavy flights of the moths having been observed in. exas and pupation of larvae reported from Montana.

The chinch-bug situation has not materially changed since our last report, s is also the case with Hessian fly, with the single exception of Kansas where housands of acres of wheat have been plowed under on account of the heavy infes- ation.

Flights of the armyworm moths have been observed in Indiana and Illinois, uring the last week in April. Armyworm damage has already been reported from orthern Indiana and also northern Illinois.

Telegraphic communication dated May 27 has just been received from Alabama hat larvae of the cotton worm are abundant near Corpus Christi. A note has also een received that on May 23 larvae were abundant in several fields near Browns- ille, Texas. This is an unusually early appearance of this insect. In 1924 the irst report was received from the Brownsville region on July 23; in 1923 the irst report was received on June 8, and in 1922 on August 1. In 1921 the first arvae were observed in Lowndes County, Ala., on August 26. The average date for e past three years for the first appearance at Brownsville was July 7. The present ppearance, 42 days ahead of the average and 10 days ahead of the earliest appear- ce of this insect in the past three years, is of decided interest as the early ppearance of the larvae of this insect is usually indicative of serious damage fore the bolls are formed. We can also expect damage later in the season by the ths attacking fruit in the Northern States.

The corn rootworm seems to be more troublesome than usual this year in the utheastern and Gulf Region.

The pea aphid is reported as attacking alfalfa and clover over a very broad gion, reports having been received from Connecticut, Michigan, Indiana, Illinois, d California.

The clover-leaf weevil seems to be very decidedly more prevalent this year n usual in Indiana, Michigan, and Iowa. It is also reported as causing some age in Maryland and Kansas.

Tent caterpillars are again proving very numerous in the New England and dle Atlantic States. A more restricted region of infestation is reported from higan.

Pear psylla infestation is general throughout the fruit sections of New York State.

The plum curculio has been materially retarded in the Georgia Peach Belt by dry weather. In Illinois and Missouri this pest is more prevalent than usual.

A limited but very serious infestation of the black-lined cutworm in blueberry plantations in Maine is reported this month, single growers suffering losses as high as $12,000.

A species of Julus is assuming major importance as a potato pest in northeastern Ohio.

Damage for the first time to cultivated crops by Eleodes omissa borealis Blaisd., one of the false wireworms, is reported from California.

A late report not included in this number of the Bulletin indicates that the Mexican bean beetle was taken in the field at Birmingham, Ala., March 30, three weeks earlier than in 1923 and 1924. By May 25 over 20 per cent of beetles had emerged in hibernation cages. The light infestation in this section is undoubtedly due to small number of beetles entering hibernation last fall on account of prolonged drought.

An interesting note of the gradual increase in destructiveness of the garden fleahopper to truck crops has been received from the west coast of Mexico.

Two unusual pests of strawberries are reported in this number, one the raspberry fruit worm attacking the young fruit in Connecticut, and the other a small beetle Brachypterolus pulicarius, feeding on the blossoms in New York State. The latter was reported doing similar damage in New York State in 1922 (ss I.P.S. Bulletin II, P.89, under Heterostomus pulicarius L.

In the Sinaloa region of Mexico the corn earworm is reported as having destroyed a very appreciable quantity of the cannery peas, estimates running from 1 to 50 per cent in different fields. This is the first record that we have of this insect being a serious pest to peas.

The camphor scale has been found for the first time in Vermilion Parish, La.

The elm leaf beetle is reported as seriously infesting trees in Dayton, Ohio, where up to this time it has not been a serious pest.

A very serious infestation of a rose house in the vicinity of Philadelphia by the Surinam roach is reported in this number. In one of the commercial houses in this vicinity approximately 30,000 plants have been girdled.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR MAY, 1925

The outbreak of Dendroctonus monticola Hopk. in lodgepole pine at Martin Mountain, B. C., has extended very rapidly since last year. During the control operations commenced this season over 25,000 infested trees have been marked for cutting.

An extensive outbreak of Dendroctonus beetles in spruce has been discovered in the forests near Prince Rupert, B. C.

Control work conducted for the last two years on the pine bark beetle outbreak in the Aspen Grove forest, British Columbia, where 300,000,000 feet of yellow pine was threatened with destruction, has resulted in the infestation being almost entirely removed. It is believed that the success obtained is due in large measure to the rigid enforcement of slash burning throughout the yellow pine area.

Grasshoppers are not expected to cause any serious trouble in southern Manitoba during 1925.

An outbreak of the black army-cutworm Agrotis fennica Tausch., occurred over a limited area near Ottawa, Ont., during May. Some damage was done to clover and peas, but the outbreak was early checked by a fungus disease which destroyed the majority of the larvae.

The cricket, Anabrus longipes Caudell, is occurring in outbreak form at Kelowna and Vernon, B. C.

The leaf roller Cacoecia rosana L. is steadily spreading in the orchards of the Saanich peninsula, B.C.

There was a heavy deposition of eggs of the pear psylla, Psyllia pyricola Forst., in the orchards of the Burlington and Niagara districts., Ont., by the end of April.

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae and Locustidae)

Georgia — O. I. Snapp (April 25): Grasshoppers have been unusually abundant in several orchards at Montezuma and Marshallville during the past week. In some sections, several orchards, especially in the lowlands, grasshoppers have devoured or seriously injured 50 per cent of the small green peaches.

Mississippi — R. W. Harned (March 11): Reports have been received from Gulfport, indicating that grasshoppers are causing serious damage to the flowers, shrubs, and other plants in the cemetery at that place. From the description given, this is probably the work of the Southern lubber grasshopper, Romalea microptera Palis. The grasshoppers are said to be rather thick on some of the lots in the cemetery and collect in large numbers on plants. It is reported that late in the afternoon the grasshoppers seem to seek shelter. (April 22): A letter from a correspondent at Hampton, Washington County, dated April 22, is as follows: "During the season of 1924 we had a very heavy infestation of grasshoppers, from which we suffered heavy damage on cotton and soybean crops. They ate up absolutely, so that not a stalk remained, about 40 acres of soybeans; and of cotton, many acres for considerable distances along ditch banks down into the fields. We are now finding large numbers of grasshoppers hatching out along the ditch banks; and this makes us fear the possibility of heavy damage again in the 1925 season."

Minnesota — A. G. Ruggles (May 13): On May 7 in Benton County we found that the eggs of the grasshopper Camnula pellucida Scudd. had passed through the winter in good shape and some of the eggs were hatching. All indications are that there will be several outbreaks in this part of Minnesota this year.

Oklahoma — C. E. Sanborn (May 7): Began hatching in southern part of the State April 1 and in the northern part April 30. Belated forms are now hatching. They are 75 per cent more numerous than last year.

J. L. Webb (May 12): G. A. Maloney, of the Tallulah Laboratory, sent in the following note: "Poison has been required to control grasshoppers in Oklahoma."

Montana — R. A. Cooley (May 1): Crickets were reported on April 8 as recently hatched and very abundant at Camas Prairie, Sanders County. Damage to crops is expected. Am not sure of the species, either Peranabrus scabricollis Thom. or Anabrus simplex Hald.

WHITE GRUBS (Phyllophaga spp.)

Wisconsin — S. B. Fracker (May 14): Phyllophaga spp. turned up in large numbers in the spring plowing in central counties of this State.

Indiana

J. J. Davis (May 25): In addition to the numerous reports of white grubs turned up by the plow we have received a report on May 16 from Rushville that grubs were destroying wheat. Specimens accompanied the report.

Nebraska

M. H. Swenk (April): White grubs have been complained of as destroying lawns in all the southeastern counties of the State, but especially from the two southern tiers of counties lying between the 97th and 99th meridians, where this sort of injury has been especially heavy.

CUTWORMS (Noctuidae)

Connecticut

W. E. Britton (May 22): Cutworms are seemingly more abundant this year on vegetable plants in Litchfield, Hartford, Tolland, and Middlesex Counties.

Michigan

R. H. Pettit (May 14): I am getting word of an outbreak of climbing cutworms, both in the northern part of the fruit belt in the Lower Peninsula and way up at Ewen in the Upper Peninsula, and these reports tell us that the cutworms are in unheard-of numbers. (May 21): We have received some larvae from the Upper Peninsula and, while they all died overnight, I was able to determine them as Noctua fennica Tausch. A letter received from the county agent at Ewen also tells me that the economic loss has not been heavy because there is not so much in the way of agriculture going on up there, but the damage done to wild plants has shown possibilities that have alarmed the whole county. Another species of cutworms which is destroying two-thirds of the buds of some trees in Montcalm County near Stanton, is still undetermined. Probably c-nigrum L. Mr. Gentner, who has just returned from Benzie County (Beulah), tells me that the species which is making a lot of trouble up there is something still different.

Ohio

G. A. Runner (May 15): Climbing cutworms have caused some damage to buds of apple in Ottawa, Erie, and Lorain Counties. Adults bred from larvae found feeding on buds of apple have been determined by S. E. Crumb of the Bureau of Entomology as Rynchagrotis cupida Grote.

H. A. Gossard (May 21): I saw pastures of 60 acres in Licking County with hardly a spear of green grass left in them and 10-acre patches of destroyed grass were common through two or three townships. I was told that there were several much larger pastures in the same condition. In one pasture we found the worms had advanced in a solid front about 25 feet per day during a period of four days, eating everything before them. Counts of the number of worms per square foot on this advancing front were made from 3 square feet located at different points along the line and the average was 172 cutworms per square foot. In a few cases the caterpillars were entering fields of wheat and oats, destroying these as they went.

There was an outbreak near Columbus in 1886 very similar to the present one and it was estimated that year that three or four thousand acres of pasture was completely destroyed. I judge the damage this year will be as great or greater than this. We saw patches of pasture destroyed in Delaware County about 5 miles north of Delaware and this cutworm present. The bacterial disease now working on them will in all likelihood prevent a recurrence of the attack next year. Probably very few of these worms will pupate.

Indiana

B. A. Porter (May 21): More complaints have been received of garden cutworms than usual from home gardeners.

J.J. Davis (May 25): Have been reported as destructive in gardens since April 30 from Indianapolis, Morgantown, Laporte, and Mishawaka.

Illinois

W. P. Flint (May 22): A few reports of cutworm damage have been received, but the insects seem to be less numerous than usual. All damage thus far noted was to early-planted corn.

Iowa

C. J. Drake (May 7): Cutworms are very abundant this spring. The W-marked, Noctua c-nigrum L., the bronzed, Nephelodes minians Guen., the greasy, Agrotis ypsilon Rott., and the dingy, Feltia subgothica Haw., seem to be the more common species. Several records have been received from various parts of the State. One farmer stated that he found as many as 25 cutworms in a square foot of ground near a hill of corn. The bronzed cutworm has started to pupate.

Missouri

L. Haseman (May 1-15): On May 12 most of the bronzed cutworms were apparently full-fed. They are widely distributed over the central part of the State. Some report them destroying pastures much like the armyworm.

Nebraska

M. H. Swenk (April): The outbreak of the army cutworm, Chorizagrotis auxiliaris Grote, reported upon under dates of March 26 and 31 and April 9, did not result as seriously as the enormous number of cutworms present in the winter wheat and alfalfa fields threatened, largely owing to the cool, rainy weather that prevailed over the heavily infested counties during the early part of April. The winter wheat in many fields was damaged but, having a good root system, continued to grow, while the weather held back the activity of the cutworms and in most cases the wheat eventually got ahead of the cutworms. In the alfalfa fields there has simply been a partial loss of the first cutting of hay, without any important killing out of the plants in the old fields. If dry weather had prevailed after the damage started the loss would undoubtedly have been very severe as the cutworms were exceedingly abundant. In one field north of Brandon, in Perkins County, a piece of sod measuring 4 by 5 inches was found to harbor 44 cutworms in and under it. Another one, slightly larger, harbored close to 60 cutworms. In a field just north of Madrid, Perkins

County, 65 cutworms were found in and under an old cornstalk lying on the ground. These hordes of worms, however, gradually reached maturity, for the most part, without completely destroying the growing crops, and these are now recovering, in large part, from the injury.

During April injury by this cutworm appeared more or less in counties to the east of the heavily infested area, but the damage has not been important. The counties especially reporting injury are Lincoln, Kearney, and Buffalo Counties, in the Platte Valley, and are almost wholly related to damage in alfalfa fields. At the present time complaints of injury by the army cutworm have entirely ceased.

ssissippi

R. W. Harned (May 21): Inspector N. D. Peets with headquarters at Laurel, Jones County, reports under date of May 12 as follows: "Cutworms are doing considerable damage on cotton in this section." The specimens that he sent in with this note have been identified by H. W. Allen as the granulated cutworm, Feltia annexa, and the shagreened cutworm, Feltia malefida.

nsas

J. W. McColloch (May 22): The Kansas Crop Bulletin reports widespread damage from cutworms in corn over most of the State. We have received reports of injury in Atchison, Saline, Rooks, Geary, and Riley Counties. More abundant as compared with an average year. It is also of interest to note that moths (probably of the army cutworm) are very abundant in Marshall, Cloud, Riley, Pratt, and Sedgwick Counties. They are especially troublesome in houses.

xas

C. H. Gable (April 21): A most unusual flight of Chorizagrotis auxiliaris Grote has occurred this month at San Antonio. Reports from various parts of the county state that people have suffered great annoyance by thousands of the moths getting into the houses at night.

ntana

W. C. Cook (May 22): Porosagrotis orthogonia larvae are quite common in south-central Montana and we may look for trouble next spring if the weather is favorable. Chorizagrotis auxiliaris is present in considerable numbers all over central Montana but there has been little damage. This species is now pupating.

aho

Claude Wakeland (April 30): Several hundred acres in south-central Idaho have been heavily infested with the western cutworm that has held the alfalfa back and Mr. Whitehead, our extension entomologist, has found that this condition has been generally confused with winter killing.

Don B. Whelan (May 7): I have received a number of specimens of the army cutworm, Chorizagrotis auxiliaris Grote, from Jerome County where they were injuring alfalfa. These specimens were sent in by the extension entomologist.

lifornia

A. O. Larson (April 24): Cutworms are more abundant this year on truck crops in Stanislaus County.

WHEAT

CHINCH BUG (Blissus leucopterus Say)

Illinois — W. P. Flint (May 22): Examinations during the last week have shown chinch bugs even less abundant than was the case during the latter part of April. It now seems certain that no serious damage from the first brood of this insect will occur anywhere in Illinois this season. The weather for the past month has been extremely dry, and conditions in general have been favorable to the chinch bug had sufficient numbers survived the winter.

Missouri — L. Haseman (May 12): In some fields in west-central Missouri farmers are reporting that the pest is already affecting the wheat (overwintering adults). Mr. Wade has also observed several badly infested fields of wheat.

Mississippi — R. W. Harned (May 21): More complaints have been received in regard to chinch bug injury to corn this spring than during any previous year for a number of years. Most of these complaints have come from the Yazoo-Mississippi Delta section of the State, that is, the northwestern part of Mississippi. All the complaints received have been in regard to the injury caused to corn. Conditions have been very favorable for the increase of these insects, as during 1924 we had the longest drouth on record. This spring there has also been much less than the average amount of rainfall.

Nebraska — M. H. Swenk (May 25): Chinch bugs are more numerous and more widely spread over an area in southeastern Nebraska than they were last year at this time. We expect heavier infestation and more loss this year than last.

Kansas — J. W. McColloch (May 21): Chinch bugs are abundant in the wheat fields throughout the eastern two-thirds of Kansas, and are causing some loss. Their injury is obscured by the heavy infestation of the Hessian fly. Climatic conditions have been favorable for the bugs. Young bugs have been hatching during the past week.

HESSIAN FLY (Phytophaga destructor Say)

Illinois — W. P. Flint (May 22): The Hessian fly spring brood is more abundant than was indicated by our reports last month. Recent examinations made by S. C. Chandler, in southern Illinois, and by J. H. Bigger, in west-central Illinois, have shown a very high percentage of wheat culms infested by this brood. At the present time the average culm infestation is close to 50 per cent in many fields, with early-sown fields running as high as 90 per cent. In some cases late-sown fields show less than 10 per cent of the culms infested. The figures given include all culms on plants examined in whatever condition. In many cases where the infestation for culms will run as high as 25 per cent, the damage is not great

because of the fact that the infested culms are the smaller, later, weaker ones which would never make heads in any case. Judging by present indication, the fly is practically all in the full-grown larval or flaxseed stage. All wheat is in a poor condition owing to the very dry weather. Only 0.22 inch of rain has fallen at Urbana during May.

wa

C. J. Drake (May 7): The Hessian fly has been greatly reduced in numbers and it is very hard to find specimens in wheat fields. Over 90 per cent of the farmers in the winter-wheat-growing section of the State cooperated in the Hessian fly campaign last year.

braska

M. H. Swenk (April): An inquiry into conditions in Johnson and Pawnee Counties, made during the present month, showed that while there was considerable Hessian fly in volunteer wheat plants and in drilled wheat sown considerably before the announced dates of safe sowing, the wheat sown on or after the announced date of safe sowing is practically uninfested.

nsas

J. W. McColloch (May 21): Reports and surveys show that the Hessian fly is present in damaging numbers throughout nearly all the wheat-growing area of the State. Thousands of acres of wheat have been plowed under. The second spring brood is just beginning to emerge and further damage is anticipated before harvest. In many ways the present outbreak has been more destructive than any previous one.

WIREWORMS (Elateridae)

aho

Claude Wakeland (April 30): A toll of hundreds of acres of wheat has already been exacted by wireworms in the irrigated sections. Wireworm injury is so severe this season that we are planning making an extensive survey of Canyon County.

FALSE WIREWORMS (Elsodes spp.)

aho

Claude Wakeland (April 30): The false wireworms are proving very destructive to fall and spring planted grain in the dry-farming areas of eastern Idaho.

WHEAT STRAWWORM (Harmolita grandis Riley)

nsas

J. W. McColloch (May 21): Samples of wheat infested by the strawworm have been received from Great Bend and Greenburg.

A ROOT APHID (Geoica squamosa Hart)

braska

M. H. Swenk (April): During the first week in April the wheat-root aphid, Geoica squamosa, was found so abundantly on the roots of smartweed in a stubble field in Nuckolls County that the question was raised as to whether it would be safe to plant corn in that field this spring.

CLOVER MITE (Bryobia praetiosa Koch)

Nebraska — M. H. Swenk (May 25): This mite was swarming by the millions during the first week in May in a wheat field in Cheyenne County, causing the wheat to die out in spots.

CORN

ARMYWORM (Cirphis unipuncta Haw.)

Indiana — J. J. Davis (May 10): First adults of this moth were noticed April 25 at Lafayette. There has been cool weather since. Adults were again noticed the night of May 10. (May 25): The armyworm, Cirphis unipuncta, has been reported (May 20) from several localities in Fulton County in northern Indiana. In all cases so far the worms were found in low lying meadow and pasture land.

Illinois — W. P. Flint (May 22): A fairly heavy flight of armyworm moths occurred in the central and northern parts of the State during the last week of April. Caged specimens laid unusually large numbers of eggs. The worms are just beginning to hatch in the field and one report of injury has been received from the northern part of the State. The moth flight was not as heavy as in 1924 and although scattered damage is expected we do not look for a serious general outbreak.

SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Oliv.)

South Carolina — Philip Luginbill (May 18): A large field of corn planted on bottom land was completely destroyed at Columbia. The corn was planted about April 15.

Alabama — J. M. Robinson (April 29): The southern corn rootworm is causing considerable destruction to corn that has been planted after the turning of vetch. This is one of our rather serious insect pests following this highly desirable legume.

Mississippi — R. W. Harned (April 13): Although this insect probably always causes considerable damage in this State each spring, this year it seems to be more abundant than usual in certain places. Under date of April 13 a large planter at Natchez sent one of these insects to thisoffice, stating that it was "working great damage to stands of corn in the black lands of the swamp. They get into the corn just as it gets above the ground. It has destroyed the stand upon 300 acres for us."

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Say)

Mississippi — R. W. Harned (April 11): A correspondent at Dahomy, in Bolivar County, sent a number of beetles to us on April 11 that have been identified by J. M. Langston as Myochrous denticollis. The correspondent states that these beetles were on his corn and that he found

most of them in fields which have been in sweet clover for two years. On April 23 another correspondent from the same town sent in specimens of these beetles with the statement that they were causing damage to corn.

SEED-CORN MAGGOT (Hylemyia cilicrura Rond.)

io — H. A. Gossard (May 22): The seed-corn maggot is very numerous and is very injurious all over the State.

linois — W. P. Flint (May 22): A few reports of injury about this insect, accompanied by specimens, have come in.

BILLBUGS (Sphenophorus spp.)

diana — J. J. Davis (May 18): Two Sphenophorus zeae beetles to nearly every hill of corn. The corn is 1 to 2 inches high. They work on the stalks below the surface of the ground and kill the plant. Present indications are that they will destroy a 25-acre field. Specimens were submitted.

nsas — J. W. McColloch (May 22): The maize billbugs have been found in cornfields at Junction City and Ogden, in numbers sufficient to cause injury to the crop. This is the first time that this insect has proved troublesome in this part of the State.

WIREWORMS (Elateridae)

diana — J. J. Davis (May 25): Wireworms were reported May 21 from Orestes where they are destroying corn in the bottom lands.

ndas — J. W. McColloch (May 21): Reports of wireworm injury to corn are just beginning to come in from Brown, Riley, and Sumner Counties. Abundance as compared with an average year seems to be about the same.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Kalt.)

nnecticut — B. H. Walden (May 14-20): Abundance this year much more on alfalfa in Hartford, New Haven, and Middlesex Counties. The infestation is worse where the plants suffered from dry weather in 1924 and where the plants were slow in starting this spring, due to poor drainage. From 75 to 90 per cent of the plants were badly injured. An owner in East Windsor plowed his alfalfa under to plant corn. At North Branford and West Simsbury many aphids were killed by Empusa.

chigan — R. H. Pettit (May 14): The pea aphid is reported as being very plentiful in some alfalfa fields.

iana — J. J. Davis (April 30): Reports were received of injury to alfalfa by thisinsect on April 28 and 29, from Decatur, LaPorte, and Knox.

All reports were accompanied by specimens and indicate considerable damage. All lots are accompanied by numerous ladybird beetle larvae and parasitized individuals. (May 7): The county agents of Decatur, Elkhart, and Marshall Counties were in today and reported increasing injury from the pea aphid on alfalfa. Spots are dying out and in some cases entire fields are threatened with destruction. Continued cool weather has checked parasite activity.

Illinois — W. P. Flint (May 22): A number of cases of injury to alfalfa by this insect have been reported in the northern part of the State. The aphid reached the maximum about May 1 and since that time they have been practically cleaned out by parasites and predators. In a recent examination of alfalfa it has been difficult to find living pea aphids, although parasitized individuals were numerous.

Nebraska — M. H. Swenk (May 25): Several fields of alfalfa were badly injured by pea aphid in Dawson County.

Wyoming — C. L. Corkins (May 12): The pea aphid have just been received from the county agent at Casper, who states that these lice are attacking small patches of alfalfa. Damage is slight, but severe in spots.

California — C. M. Packard (May 7): An extremely heavy infestation is reported in nearly all fields in the northeast portion of Antelope Valley, in the vicinity of Roosevelt, about 9 miles northeast of Lancaster. Illinoia pisi has been present all spring but is now much reduced by coccinellids and syrphids. The first cutting was completely lost and in some fields a portion of the plants have been actually killed.

R. E. Campbell (May 8): The attack of the pea aphis on alfalfa in the Antelope Valley in northern Los Angeles County is on the wane. Considerable damage was done to the first crop, some farmers claiming that in a few cases the attack was so severe as to kill the plants. Ladybirds and syrphids are now very numerous and the aphis fungus is plentiful. It is expected that the infestation will be practically wiped out by these natural enemies, though this natural control will be, as is usually the case, too late to save the first crop from damage.

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Idaho — Claude Wakeland (April 30): At this date the alfalfa weevil is just beginning to oviposit freely where, at the same time last season, worms had already grown to maturity. From indications now injury from the weevil will occur at the end of the first crop and on the second crop.

CLOVER-LEAF WEEVIL (Hypera punctata Fab.)

ryland E. N. Cory (April 27): Present in numbers in all fields examined. The disease that causes the larvae to curl around the tips of grass blades before dying is abundant.

diana J. J. Davis (May 25): Reports show that this insect was responsible for considerable damage to some clover fields in the central and southeastern sections of Indiana.

chigan R. H. Pettit (May 14): The clover-leaf weevil has actually injured some alfalfa fields quite seriously. The adult beetles are present in large numbers feeding on alfalfa near Lansing, and the larvae are reported in other parts of the State as doing serious injury. Practically always in the past Entomophthora has appeared before very serious damage has resulted. Sometimes, however, as in this case, the beetle runs for a time before the disease catches up with it.

wa C. J. Drake (May 7): The clover-leaf weevil occurs in unusually large numbers near Shenandoah. It entirely destroyed a 15-acre field of clover. Other reports from Page County indicate that the clover-leaf weevil is also doing some damage to alfalfa fields.

nsas J. W. McColloch (May 21): Larvae of the clover-leaf weevil were numerous in alfalfa fields at Iola.

LESSER CLOVER-LEAF WEEVIL (Phytonomus nigrirostris Fab.)

linois W. P. Flint (May 22): Adults of the clover bud weevil, Phytonomus nigrirostris, were abundant in clover fields during April and it is almost impossible to find a single stem of the clover which does not show the result of infestation by one or more larvae of this snout beetle. Examinations made during the last two weeks in four counties in east-central Illinois show this condition to be general. Examinations by J. H. Bigger, in western Illinois, show as high as 95 per cent of the clover stems infested. This insect is certainly becoming an important factor in clover production in this State.

CLOVER HEAD CATERPILLAR (Laspeyresia interstinctana Clem.)

linois W. P. Flint (May 22): Adults of this species are very abundant in clover fields at the present time.

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

MISCELLANEOUS FEEDERS

MARCH FLIES (Bibio spp.)

North Carolina — F. Sherman (May 13): This supposedly harmless fly, Bibio femoratus Wied., has been abundant on fruit-bloom, etc., and has several times been sent in during April under fear that it is a pest. The same experience was had in 1916.

Indiana — J. J. Davis (May 25): Have been reported as abundant the past two weeks at Spencerville, Monticello, and Columbus.

Montana — R. A. Cooley (May 4): Bibio albipennis Loew was reported from Lake County. The white larvae in the soil are reported each year in this State as injurious to the roots of various plants. We have had some reports this year. The adults are frequently taken hanging to foliage of currant bushes and often thought to be the cause of damage to tender leaves which really were damaged by the wind.

APPLE

APHIDIDAE

Connecticut — M. P. Zappe (May 23): In some orchards the aphids have been very much reduced by their natural enemies. In other orchards there are still plenty of aphids left. The first brood of adult syrphids are emerging now.

New York — A. B. Buchholz (May 9): In general these insects do not appear as abundant as in past years in Columbia County.

Pennsylvania — H. E. Hodgkiss (April 29): The green and grain aphids hatched early and it was not uncommon to find as high as 120 or 130 to a single bud; in fact, they are about equal as regards numbers and in many instances resembled a swarming of bees.

Missouri — Otis Wade (May 8-11): Aphis sorbi Kalt. and A. pomi DeGeer on apple in St. Louis region. Unsprayed trees are curling badly and fruits are beginning to show injury. Both species are found together and about equally abundant. Coccinellids and syrphids are abundant.

GREEN APPLE APHID (Aphis pomi DeG.)

New York — C. C. Wagoner (April 11): Green apple aphids were found in considerable numbers on the buds in Ulster County.

G. E. R. Hervey (April 13): In Dutchess County they are numerous in all orchards observed.

A. B. Burrell (May 18): They are very scarce at the present time in Ontario County.

E. P. Felt (May 25): Have been only moderately abundant, though the extreme cold weather now prevailing is favorable to a considerable if not large increase.

Indiana — F. N. Wallace (April 29): This species is already very abundant on Spirea van Houttei around Indianapolis.

H. F. Dietz (May 19): The green apple aphid has been very abundant on Spirea van Houttei but does not seem to be particularly abundant on apple.

APPLE-GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York — C. C. Wagoner (April 11): Very numerous on the opening buds in Ulster County.

Wisconsin — S. B. Fracker (May 12): Aphids average one or two to the blossom in southeastern Wisconsin.

Minnesota — A. G. Ruggles (May 13): At St. Paul the species of plant lice on the apple which have been so abundant prove to be Rhopalosiphum prunifoliae.

ROSY APPLE APHID (Anuraphis roseus Baker)

New York — C. C. Wagoner (April 11): Nymphs are few in number at the present time in Ulster County. The first ones were observed April 8.

G. E. R. Hervey (April 13): Rosy apple aphids have been observed in practically all orchards but in small numbers in Dutchess County.

E. P. Felt (May 25): Have been only moderately abundant, though the extreme cold weather now prevailing is favorable to a considerable if not large increase.

Pennsylvania — H. E. Hodgkiss (April 29): The rosy aphis appear to be of greater State-wide abundance than at any time during the last five years. Obsefvations made in 40 counties indicate that the infestation is about equally severe over the entire State.

Maryland — E. N. Cory (April 23): Mixed infestations of the rosy and green aphids are present in many orchards in Washington County. Abundance is about as much as would be expected in a year of considerable damage to the crop.

Indiana — H. F. Dietz (May 19): No heavy infestations of the various kinds of plant lice attacking apple have been reported or seen up to the present time although the rosy apple aphid is present in moderate numbers in some locations.

B. A. Porter (May 21): During the past three weeks the rosy aphid has developed into a serious outbreak in many of the orchards in the southern part of the State. In some orchards serious losses will be sustained. The first winged migrants were noted on May 15.

Illinois — W. P. Flint (May 22): No injury from this species has been reported or seen in the Illinois orchards this season. In a recent examination of a number of orchards in the western and central parts of the State, only two twigs showed infestation by this species although a special lookout was kept for this aphid in all orchards visited.

CODLING MOTH (Carpocapsa pomonella L.)

Illinois — W. P. Flint (May 22): Emergence of the codling moth from overwintering larvae has been prolonged by the cold weather of the first part of May. The maximum emergence of the insect is just occurring in the central Illinois district. Emergence started at about the usual period in the development of the fruit.

Missouri — Otis Wade (May 8-11): Moths are very late in emerging in the St. Louis region. Very little work showing up yet.

L. Haseman (May 12): Moths emerging late, less than 50 per cent of moths out on this date. Pupae, 66 per cent; adults, 29 per cent, and larvae, 5 per cent.

Washington — E. J. Newcomer (May 1): Owing to the early season, the codling moth began emerging earlier than usual, the first moths being noted at Yakima April 16.

AN APPLE LEAF ROLLER (Species undetermined)

Ohio — H. A. Gossard (May 22): One of the apple leaf rollers, a species undetermined, was observed to be quite numerous in an orchard at Delaware May 19.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

New York — C. R. Crosby and assistants: First larvae of this insect were found in Monroe County on April 26 and in Orleans and Wayne Counties about May 8.

Montana — J. R. Parker (May 1): In the Bitter Root Valley leaf rollers began hatching about April 20 and were complete about May 1. About 84 per cent of eggs hatched, which is about normal. Apparently no damage to eggs by a severe freeze last November, which killed many varieties of apple trees.

CIGAR CASE BEARER (Coleophora fletcherella Fern.)
PISTOL CASE BEARER (Coleophora malivorella Riley)

w York — C. R. Crosby and assistants: Larvae of this insect were still in hibernation in Monroe and Wyoming Counties on April 11. Damage so far is but slight.

EYE-SPOTTED BUDMOTH (Spilonata ocellana D. & S.)

w York — C. R. Crosby and assistants: The first part of May this insect was generally abundant and doing considerable damage in Genesee, and Onondaga Counties. By the middle of the month moths were very numerous in Dutchess County.

E. P. Felt (May 25): Appears to be only moderately abundant in the Hudson Valley.

io — G. A. Runner (May 16): The budmoth was observed to be abundant and has caused considerable damage to young apple in the vicinity of Florence. Infestation was found to be general over an orchard of about 1,000 three-year-old trees.

LEAF CRUMPLER (Mineola indigenella Zell.)

ssouri — L. Haseman (May 12): In central Missouri young orchard trees show an unusual abundance of the overwintering cases and caterpillars which are now approaching maturity. Attacking apple, haw, quince, and plums.

FALL CANKERWORM (Alsophila pometaria Harr.)

w York — E. P. Felt (May 25): Eggs were extremely abundant in one orchard in Westchester County and the probabilities favor a somewhat serious infestation in that general section.

TENT CATERPILLAR (Malacosoma americana Fab.)

nnecticut — W. E. Britton (May 22): Tent caterpillars have been unusually abundant throughout the State on apple and wild cherry.

w York — C. R. Crosby and assistants: Eggs hatched about the middle of the month in Orange, Greene, and Dutchess Counties.

E. P. Felt (May 25): Moderately to extremely abundant in the Hudson Valley and on Long Island. The caterpillars are nearly full grown and are scattering in northern Columbia County.

H. C. Odell: Our tent caterpillar campaign in Suffolk County has come to a close with a total collection of approximately 550,000 egg masses.

J. G. Curtis: Report of Tent Caterpillar Egg Mass Campaign in Westchester County, February 16-28.

City and Towns:	Total masses	City and Towns	Total masses:
New Rochelle. . .	34,046	Mt. Pleasant. . . .	375,056
Mt. Vernon	9,590	New Castle.	66,224
Yonkers.	74,967	North Castle. . . .	122,936
White Plains. . . .	74,444	North Salem.	12,194
Bedford.	101,938	Ossining.	74,006
Cortlandt.	188,531	Poundridge.	34,187
Eastchester. . . .	20,820	Rye.	63,777
Greenburgh. . . .	199,879	Somers.	39,614
Harrison.	133,111	Scarsdale.	27,643
Lewisboro.	41,966	Yorktown.	103,332
Mamaroneck. . . .	22,048		
Total	1,820,309		

Maryland — E. N. Cory (April 25): Nests of newly hatched larvae abundant on wild cherry in Howard County.

Michigan — R. H. Pettit (May 21): Mr. Gentner reports enormous numbers of tent caterpillars in the vicinity of Cadillac and over quite a large area of which Cadillac is the center. He says that he found as many as 12 on some trees, mostly on pin cherry and other wild stuff, although they are working in the commercial cherry orchards and apple orchards as well.

APPLE RED BUG (Heterocordylus malinus Reut.)

New York — C. R. Crosby and assistants: By the middle of May apple red bug was present in noticeable numbers in Orange and Dutchess Counties and quite numerous in Onondaga County.

E. P. Felt (May 25): Appear to be only moderately abundant to somewhat scarce in the Hudson Valley.

FALSE APPLE RED BUG (Lygidea mendax Reut.)

New York — E. P. Felt (May 25): Appear to be only moderately abundant to somewhat scarce in the Hudson Valley.

TARNISHED PLANT BUG (Lygus pratensis L.)

Pennsylvania — H. E. Hodgkiss (April 29): The tarnished plant bug adults are numerous in the opening apple cluster buds where they appear to be doing considerable damage.

Indiana — J. J. Davis (May 25): Has been reported as abundant in several orchards in the southern half of the State. Apples, apparently injured by this insect, have been received. The injury resembles that of the apple red bugs.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

w York — A. S. Mills (April 11): Punctures on apple limbs in Greene County were found rather commonly in a few orchards.

io — G. A. Runner (May 10): Numerous reports have been received of injury to young apple trees. The buffalo treehopper is abundant in the commercial fruit growing districts along the South Shore of Lake Erie and seriously interferes with the growth of young fruit trees in sod or along borders. Severe damage has been noted in orchards in alfalfa sod and trouble from this insect has prevented the practice of growing alfalfa in young apple orchards from becoming more general.

PUTNAM'S SCALE (Aspidiotus ancylus Putn.)

rmont — C. R. Crosby (March 18): Infested bark received from Bennington.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

w York — C. R. Crosby and assistants: By the middle of April reports were received of light infestations in Onondaga, Ontario, and Erie Counties.

io — G. A. Runner (May 15): No increase in infestation over previous years can be noted. Examinations of peach orchards in Ottawa and Erie Counties show an extremely light infestation and there seems to be no evidence that the usual lime-sulphur sprays are not thoroughly effective. Some of the orchards under observation are in a locality where one of the earliest outbreaks of the San Jose scale in the Eastern United States occurred. Counts of scales from twigs of unsprayed apple made during the period April 20-May 10 indicate a high winter mortality. Six collections showed a survival of 47.2 per cent.

diana — B. A. Porter (May 21): First crawlers appeared May 20, which is 7 to 10 days ahead of normal and 20 days ahead of last year. This early start on the breeding season will probably enable the scale to overcome to a large extent the extreme winter mortality which has occurred.

shington — E. J. Newcomer (May 1): Counts of scale in the Yakima Valley show a mortality of 35 to 65 per cent, due to the prolonged cold weather of December 16-27, 1924, during which time the temperature was below zero seven nights and reached a minimum of 10 below. In the spring of 1924 only 5 to 15 per cent of the scale was dead.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

w York — P. J. Chapman (February 10): Infested twigs received from Oyster Bay.

D. L. Hayes (April 11): Prevalent in a few orchards at Genesee in Wyoming County.

Indiana — H. F. Dietz (April 28): The oyster-shell scale, the light brown form of Glenn, was hatching in large numbers on April 22 to 26. This is the earliest hatching since 1922, at which time hatching began on April 24. In 1924 the first hatching date was May 16 and hatching continued intermittently until June 1. These records are on material that has been under observation since 1921.

J. J. Davis (April 30): Eggs of the oyster-shell scale were not hatching at Lafayette on April 29 although Mr. Dietz reports hatching at Indianapolis.

ROUNDHEADED APPLE TREE BORER (Saperda candida Fab.)

Virginia — W. S. Abbott (May 18): A borer, apparently S. candida, has killed or seriously injured a number of young apple trees in a small orchard near Vienna.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

New York — D. D. Ward (April 25): A very severe infestation was observed in one or two plantings in Onondaga County.

Indiana — B. A. Porter (May 21): Slightly more abundant than last year. On May 7 I noted the first pupa and on May 16 nearly all the larvae were mature and one-third of them had pupated.

FRUIT-TREE LEAF SYNETA (Syneta albida Lec.)

Washington — E. J. Newcomer (May 1): This is the first time this insect, which is a rather important pest in the coastal regions of Washington and Oregon, has been noted in the Yakima Valley. It has previously been reported, east of the Cascade Mountains, only at Walla Walla.

CLOVER MITE (Bryobia praetiosa Koch)

New York — D. D. Ward (April 11): The eggs of this pest are found very commonly in orchards in south Onondaga.

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

Connecticut — Philip Garman (May 22): Dry weather in the section about New Haven has favored development. More abundant than at this time last year.

New York — E. P. Felt (May 25): Eggs were somewhat numerous in some northern Columbia County orchards in early spring. Many mites hatched, though there appears to have been a material decrease in the infestation during the last two weeks.

Ohio — H. A. Gossard (May 22): The European red mite has been very conspicuous in orchards at Waterville, Hubbard, and Youngstown, and in fact over nearly all of northern Ohio.

ington E. J. Newcomer (May 1): This mite seems to be less common than usual in the Yakima Valley. Winter eggs were noted this spring as often as heretofore. Predacious enemies of this mite were very numerous during the fall of 1924 and evidently interfered with the normal deposition of winter eggs, which hatched April 10-17.

PEAR

PEAR THRIPS (Taeniothrips inconsequens Uzel)

York C. R. Crosby and assistants: From the 11th to the 18th of the month this insect was emerging. The injury apparently has been slight in Ulster, Greene, Dutchess, and Columbia Counties.

PEAR PSYLLA (Psylla pyricola Foerst.)

York C. R. Crosby and assistants: Reports received the middle of the month indicate that this insect is very abundant and infestation is heavy in general in Ulster, Orange, Monroe, Greene, Wyoming, and Dutchess Counties.

PEAR-LEAF BLISTER MITE (Eriophyes pyri Pgst.)

necticut M. P. Zappe (May 22): Very severe on youngg pear trees, especially Bartlett and Seckel at Bantam.

FALSE TARNISHED PLANT BUG (Lygus invitus Say)

York A. B. Burrell (May 4): These insects were first observed on this date in Ontario County.

SINUATE PEAR-TREE BORER (Agrilus sinuatus Oliv.)

York C. C. Wagoner (April 11): This pest has extended its range a mile or two this year in Ulster County.

PEACH

GREEN PEACH APHID (Myzus persicae Sulz.)

necticut W. E. Britton (May 21): Fruit spurs and twigs around the center of most trees at Hamden and Southington have curled leaves. Not many leaves curled on terminal twigs. Some orchardists are dusting with sulphur-nicotine; others are afraid of killing off the natural enemies which, in some orchards, bid fair to soon control the aphids. Lady beetles are abundant and syrphid larvae are present.

York C. C. Wagoner (May 14): In Ulster County several heavy infestations have been found.

L. E. Fitch (May 16): Several very heavy infestations have been noted in Nassau County.

Ohio

H. A. Gossard (May 22): The green peach aphid was reported as very damaging to peach blossoms at Clyde during the first week in May.

E. W. Mendenhall (May 25): These insects do considerable damage to the peach trees at Columbus. Destroy the leaves by curling.

BLACK PEACH APHID (Anuraphis persicae-niger Smith)

North Carolina

F. Sherman (May 13): Several reports have been received; apparently a season of moderate, but not epidemic, abundance.

PEACH BORER (Aegeria exitiosa Say)

Georgia

O. I. Snapp (May 15): Complaints in regard to very heavy peach borer infestations where paradichlorobenzene was not used last fall have reached the laboratory from growers in the Georgia Peach Belt.

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

Georgia

O. I. Snapp and assistants (May 1): Adults are now emerging at Fort Valley. As usual the insect is common in neglected orchards.

PLUM CURCULIO (Conotrachelus nenuphar Host.)

Connecticut

M. P. Zappe (May 23): At Mt. Carmel either adults are very much later than last year or are less plentiful, probably the latter as the season is a little ahead of last year.

North Carolina

F. Sherman (May 13): Dr. R. W. Leiby and J. A. Harris are working with this insect among our commercial growers and report it as more abundant than in previous seasons.

Georgia

O. I. Snapp (May 15): The very dry weather of the last two months has materially retarded the activity of the curculio. On account of the low mortality during the mild winter and the increase in the curculio population a year ago, as a result of a large quantity of fruit left in the orchards, it was feared that much trouble would be experienced this season in the Georgia Peach Belt from this insect. However, the drought has curbed its activity by bringing about mortality of the larvae when they fail to get the proper nourishment in dry peach "drops" and when unfavorable conditions for pupation are presented.

Illinois

W. P. Flint (May 22): The plum curculio, as indicated in an earlier report, is much more abundant than usual both on apple and peach. S. C. Chandler reports sprayed peach orchards in southern Illinois showing from 45 to 50 per cent injury by the curculio. Apple orchards in west-central Illinois also show more egg punctures than in normal years.

Missouri — Otis Wade (May 8-11): In the St. Louis region cherries and plums were badly stung before the regular "shuck" spray could be applied. Unfavorable weather has prevented effective spraying. Unsprayed fruits were damaged 75 per cent and sprayed fruits damaged slightly. The abundance of curculios is above the average.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Connecticut — Philip Garman (May 22): Emergence of the oriental peach moth began May 5 at New Haven and first eggs were obtained May 15. There is no sign of the insect as yet in twigs in the field.

Maryland — E. N. Cory (April 23): Eggs are present on foliage of quince at Ringgold. Moths are flying in abundance.

Georgia — O. I. Snapp and assistants (May 15): There is a break in the activity of the Oriental peach moth in the field at Fort Valley at the present time, apparently between the first and second generations, as indicated by the sudden absence of larvae in twigs in the field and observations in the insectary. A few second-generation eggs and larvae have been taken in the insectary. First-generation moths are emerging.

RED SPIDERS (Tetranychus sp.)

Georgia — O. I. Snapp and assistants (May 15): At Fort Valley red spiders are unusually abundant at the present time on peach foliage. It is very dry; scarcely any rain has fallen since March 15.

RED-LEGGED FLEA BEETLE (Crepidodera erythropus Melsh.)

Connecticut — W. E. Britton (May 14): Adult beetles have defoliated a young peach orchard at Danbury.

NEW YORK WEEVIL (Ithycerus noveboracensis Forst.)

New York — A. D. Long (April 17): The insects were found doing injury to a block of 3-year-old peaches in Orange County.

BROAD-WINGED TREE CRICKET (Oecanthus latipennis Riley)

Indiana — J. J. Davis (May 9): One row of a young peach orchard along a weedy fence row at Mitchell was badly infested with tree cricket eggs. Apparently it is Oecanthus latipennis, which we have found common in the State the past winter, judging from the description of egg punctures, etc., although we did not see specimens.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York — C. C. Wagoner (April 11): These insects appear to be very numerous this year in Ulster County.

Indiana — H. F. Dietz (April 30): A very heavy infestation of the cherry plant-louse, Myzus cerasi Fab., was observed on several sour-cherry trees in the northern part of Indianapolis on April 28.

Wisconsin — J. R. Arndt (May 4): Report of aphids on cherry at Marion.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana — H. F. Dietz (April 28): Following the severe defoliation of cherry trees in most localities in Indiana, due to the yellow-leaf disease, Coccomyces hiemalis Higgins and C. lutescens Higgins, last year and the past, rather drastic winter, considerable injury to these trees is expected this year. Already a number of reports of fruit-tree bark beetle injury to cherry have been received by this office from the vicinity of Indianapolis.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

New York — D. L. Hayes (May 2): An infestation of Aphis setariae has been found in Genesee County.

Georgia — O. I. Snapp (May 15): This insect was very abundant in a commercial plum orchard several weeks ago at Fort Valley. An application of nicotine sulphate and the recent drought have completely cleaned up the infestation.

Missouri — Otis Wade (May 9-11): Very abundant on unsprayed trees and injuring foliage seriously in the St. Louis region.

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

New York — W. D. Mills (May 2): Infestation found on several prune plantings in Wayne County.

TARNISHED PLANT BUG (Lygus pratensis L.)

Nebraska — M. H. Swenk (April): From Douglas County during the last week in April came reports of serious injury to the buds of plum, cherry, and apricot trees by the tarnished plant bug.

PULVINARIA SP.

Georgia — O. I. Snapp and assistants (May 8): The heaviest infestation ever observed of this insect on plum was noted today at Fort Valley.

RASPBERRY

RASPBERRY FRUITWORM (Byturus unicolor Say)

Michigan — F. L. Simanton (May 16): I wish to report a severe infestation of the raspberry beetle in Berrien County. This beetle will destroy thousands of cases of red raspberries in this County this year.

RED-NECKED CANE BORER (Agrilus ruficollis Fab.)

Missouri — L. Haseman (May 12): This year's crop of black raspberries is very severely damaged by last year's brood of borers. In some patches in central Missouri almost every cane is girdled by last year's brood. Small host parasites are abundant in galls, usually about four cocoons to each gall, species not determined.

BLACKBERRY

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouché)

New York — C. R. Crosby and P. J. Chapman (February 9-13): Infested twigs received from Clarksville.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York — F. Z. Hartzell (April 25): Appear to be very scarce at Fredonia.

Ohio — G. A. Runner (May 5): Adults of the overwintering brood of the three-banded grape leafhopper (Erythroneura tricincta Fitch, var. cymbium McAtee) and other species injuring grape are not as abundant in most northern Ohio vineyard districts as in the spring of 1924. This decrease seems due to the comparatively light second brood of last season rather than to weather conditions during the winter. On the Lake Erie Islands where a heavy second brood occurred last year adults of the overwintering brood of several species of grape leafhoppers are numerous. (May 18); Damage to young shoots of grape by overwintering adults of E. vulnerata Fitch has been noted in a number of localities in Erie, Ottawa, and Lorain Counties.

Missouri — N. Turner (May): This insect is not present in the southwestern part of the State where the greater acreage of grapes is set. All indications show that the damage will probably be light this season.

California — B. A. Harrigan (April 20): This insect is reported as doing considerable damage this year. It is practically impossible to cite specific localities where injury has occurred as it has been so general and extensive.

A. O. Larson (April 29): In Stanislaus and Merced Counties the first brood are injuring all the lower foliage and appear to be doing much damage.

GRAPE FLEA BEETLE (Haltica chalybea Ill.)

Connecticut — B. H. Walden (May 22): Buds have been destroyed at South Glastonbury. New buds have formed on the vines. The crop has been damaged 40 to 50 per cent. Beetles apparently have left the vines.

Pennsylvania — H. E. Hodgkiss (April 29): The grapevine flea beetle or steely beetle is causing quite a lot of damage in several of the southern counties.

Maryland — E. N. Cory (April 27): No eggs yet at the College.

M. D. Moore (April 28): Report of flea-beetles attacking grapes at Hagerstown.

Missouri — L. Haseman (May 14): During the past month this pest has been doing considerable damage in places, although where early applications of sprays were made they controlled the pest.

Nebraska — M. H. Swenk (April): The grapevine flea beetle was first noted on the grapes April 12, and 10 days later was being seriously complained of in several localities as injuring the grape buds. This appearance is nearly two weeks earlier than last year.

CLIMBING CUTWORMS (Lampra spp.)

New York — C. R. Crosby (May 10): Considerable injury noted at Crosby by climbing cutworms.

Ohio — G. A. Runner (May 15): Climbing cutworms have caused considerable damage to buds of grape in a number of localities. Injury has not, however, been as severe as in 1924. Several species have been observed to feed on the unopened buds, the more abundant species in the Sandusky vineyard section being Lampra cupida Grote.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Nebraska — M. H. Swenk (April): Several reports were received during April of injury to grape canes by the grape cane borer, Schistocerus hamatus.

GRAPEVINE HOPLIA (Hoplia callipyge Lec.)

California — A. O. Larson (April 29): The grapevine hoplia, determined as Hoplia callipyge LeConte, appears in limited numbers annually in some sections, especially near Atwater, but growers in that section say that the insects are much more numerous than usual and that

they are infesting areas formerly uninfested. Ordinarily the shoots are only 3 inches long when the attack begins but this year the grapes are further advanced. The shoots are 12 to 15 inches long, consequently there is much more foliage.

CURRANT

APHIDIDAE

Minnesota — A. G. Ruggles (May 13): Other plant lice noticed working at the present time at the University Farm are the currant aphid, Myzus ribis and the snowball aphid, Aphis communis (?).

CURRANT APHID (Myzus ribis L.)

Virginia — W. S. Abbott (May 18): This aphid was noted for the first time about May 2 at Vienna.

IMPORTED CURRANTWORM (Pteronidea ribesi Scop.)

New York — C. C. Wagoner (May 11): This insect was found hatching on May 11 in Ulster County and growers are generally applying spray for its control.

Indiana — H. F. Dietz (April 28): The eggs of this insect began hatching on April 27. The fruit on the currants at this time is about the size of small peas, and this date is 10 days after the blooming period of the currants.

Minnesota — A. G. Ruggles (May 13): The currant sawfly is at work at the present time laying eggs.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York — C. C. Wagoner (April 11): A much lighter infestation is in evidence in Ulster County than in former years.

BLUEBERRY

BLACK-LINED CUTWORM (Agrotis fennica Tausch.)

Maine — E. M. Patch (May 12): These caterpillars have taken the blueberry crop over an area which at present estimation extends about 20 miles and every hour the scouts bring in new reports of damage. One man yesterday indicated his loss alone as $12,000 and from the rate the larvae are working he seems sure to lose another $12,000.

I have distributed the standard recommendations concerning cutworms - arsenical sprays, dusts, and poisoned bait. I have used also the Bureau of Entomology circular together with a garden cutworm circular of our own in order to get across the life history, especially the fact that the performance must have started late last summer or in early fall.

My especial need just now is to know the formula for sprays, dusts, or cutworm poisoned bait which is at present being recommended, if there is any change over those in the circular. One man intended yesterday to divide his area and test all three remedies. For this particular attack the poisoned bait would seem the best chance; but there is considerable fear of this on the part of some of the blueberry growers from the bird standpoint. In certain localities the crows are feeding in good shape on the cutworms.

The particularly pernicious feature of the attack is that the cutworms are taking only the blossom buds (not yet open). The surrounding colored bracts of the bud cluster are not touched. The young leaves have so far escaped for the most part. Of course, this type of feeding means that the larvae are concentrating on what will ruin the crop quickest.

There is something queer, too, about this daintiness of appetite. I can not think that the infestation could have accumulated to its present status on such a basis. I assume that the early-instar larvae last season were feeding on something other than blueberry. If I am right in calling this caterpillar Agrotis fennica, I assume that some member of the family Leguminosae would be the logical attraction for the moths at egg laying and for the young caterpillars. I can not at present think of any such plant in the blueberry barrens except "hop clover."

The caterpillars in the field are nibbling at Maianthemum canadense and wild raspberry but neither seem to rank as a real attraction.

As the larvae remain hidden during the day and as the injury to the blueberry is to be seen only on close examination, this was reported to us only a few days ago.

The larvae are exhibiting the army habit; but the usual methods applied against the real armyworm in grain fields can not be used here. A furrow can not be plowed in the barrens and the extent or direction of the movement can not be detected from the appearance of the vegetation except at close range.

PECAN

EUROPEAN WALNUT APHID (Chromaphis juglandicola Kalt.)

California — W. C. Barber (May 5): Serious damage to walnuts at Bakersfield.

A WHITE GRUB (Phyllophaga micans Knoch)

Alabama — J. M. Robinson (April 29): Just at present Phyllophaga micans Knoch is working on pecan foliage in the Mobile district. H. P. Loding of Mobile has just informed me that Dr. Van Allen of Baldwin County has sent in several specimens of Metachroma pallidum Say defoliating pecans and persimmons and doing considerable damage. The dead and dying Satsuma trees are being attacked by the Elaphidion inerme. The adults were emerging from the trees April 25.

CITRUS AND SUBTROPICAL FRUITS

RED SPIDERS (*Tetranychus* sp.)

Louisiana — H. K. Plank and Ed. Forster (May 6): Red spiders have multiplied considerably in New Orleans and vicinity during the past six weeks, particularly on *Citrus* spp., *Amygdalus persica*, *Verbena* sp., and *Cupressus sempervirens pyramidalis*. The weather during this period was unseasonably hot and dry. Damage to crop was about 5 per cent on the average.

COTTON APHID (*Aphis gossypii* Glover)

California — Clifford T. Dodds (May 7): During March and April the damage to orange trees in Ventura, Orange, and Los Angeles Counties was somewhat more than usual. As a rule, the damage is confined to trees less than 5 years old; this year, however, many of the oldest trees received aphis damage.

PERSIMMON PSYLLID (*Trioza diospyri* Ashm.)

Louisiana — H. K. Plank (May 8): A few adults were found on the young leaves today. Last year they were found very abundant on May 10-15 on both Japanese and native persimmon.

SERICA BEETLE (*Serica fimbriata* Lec.)

California — R. R. McLean (May 1): Considerable injury reported to deciduous fruit trees and to avocados by Serica beetles, probably *S. fimbriata*, in San Diego County.

GLOVER'S SCALE (*Lepidosaphes gloverii* Pack.)

Louisiana — H. K. Plank (May 6): This scale is increasing somewhat on unsprayed trees at New Orleans and vicinity, but has not yet reached normal abundance.

PURPLE SCALE (*Lepidosaphes beckii* Newm.)

Louisiana — H. K. Plank (May 6): At New Orleans and vicinity this scale is increasing considerably on unsprayed trees but does not yet seem to have reached normal abundance.

CITROPHILUS MEALYBUG (*Pseudococcus gahani* Green)

California — Clifford T. Dodds (May 7): *Pseudococcus gahani* continues to spread to new territory where considerable damage is caused in Orange and Los Angeles Counties. Old infestations are being controlled by the natural enemy *Cryptolaemus montrouzieri* Mulsa.

CITRUS MEALYBUG (*Pseudococcus citri* Risso)

Louisiana — H. K. Plank (May 15): This pest is increasing considerably in abundance on unsprayed trees throughout the city of New Orleans, but trees which were sprayed last February with oil emulsions, containing 2 per cent of lubricating oil, still seem to be free from infestation.

MISCELLANEOUS FEEDERS

MILLIPEDES

Ohio — H. A. Gossard (May 22): We received from Mingo Junction, a millipede, apparently belonging in the genus Julus, which was reported to be exceedingly damaging to potatoes and garden crops. What appears to be this same millipede came to us several times last season and the seasonbbefore with the report that it was making the production of Irish potatoes impossible. Many farmers in northeastern Ohio the past two or three years have been compelled to cease the growing of Irish potatoes on account of this pest. Its injuries and distribution seem to be very much on the increase. It appears to have the ultimate possibility of being ranked as a major garden pest equal to or surpassing the white grub in destructive qualities.

A FALSE WIREWORM (Eleodes omissa borealis Blaisd.)

California — White C. Barber (May 2): This insect is moving from the desert plains on to pioneer cultivated areas (Kern Co.) damaging cantaloupes, watermelons, young deciduous trees, young vines, and all tender foliage; first damage reported April 27.

GARDEN SLUGS (Agriolimax agrestis L.)

Indiana — J. J. Davis (May 25): Have been reported damaging garden truck, especially lettuce at Fort Mayne May 19, Lafayette May 18, and Anderson April 21.

CHANGA (Scapteriscus vicinus Scudd.)

Alabama — J. M. Robinson (April 29): The Porto Rican mole cricket continues to be a serious pest in thesouthern portion of Alabama.

POTATO AND TOMATO

DARKLING GROUND BEETLE (Tenebrionidae)

California — A. O. Larson (April 24): Attacking tomato plants in Stanislaus County. Much more abundant as compared with last month.

GARDEN FLEAHOPPER (Halticusscitri Ashm.)

Mexico — A. W. Morrill (May 14): This insect is one of the leading insect pests of tomatoes in Sinaloa and Nayarit, fluctuating in abundance in different districts from year to year. Three and four years ago it did notnoticeable damage in the Fuerte Valley, which is the principal tomato-growing district on the Mexican West Coast. In the season of 1922-23 an outbreak occurred, covering less than 100 acres of a total of 5,000 or 6,000 acres of tomatoes growing in this district. During the season of 1923-24 the insect did heavy damage to about 1,000 acres of tomatoes. During the present season 1924-25 the fleahopper is still showing tendencies to increase

in the same district, and is doing damage and is present in destructive numbers over an area of 2,000 or 3,000 acres out of a total of about 10,000 acres of tomatoes, but is being held in check by a community effort under the direction of the Fuerte Valley Vegetable Growers Experiment Station, calcium cyanide dust being used. Attempts to breed out egg parasites from infested tomato leaves in the Fuerte Valley have thus far been unsuccessful. Although several thousand acres of tomatoes are grown between the Fuerte Valley and the Santiago River Valley in Nyarit about 350 miles farther south, no serious damage from the garden fleahopper has been observed or reported during the past season. At Santiago, however, one outbreak has been reported. Killing frosts occurred in the Fuerte Valley early in January. Old tomato plants from which first pickings had been made were killed back in most fields one-third to one-half of the length of the stems from the tips, while young plants which bore no fruit were as a rule uninjured. The minimum temperature recorded at the United Sugar Companies at Los Mochis was 35°, while at the Vegetable Growers Experiment Station the minimum recorded was 36°. Lower temperatures doubtlessly occurred in the fields. The unusually cold period lasted ten days. While the multiplication of the fleahoppers was checked by this cold spell, the effects were not as noticeable as in the case of the tomato plants. In general it is evident that in the winter-vegetable-growing districts on the West Coast of Mexico, low temperatures are not a factor influencing the fluctuations in the abundance of the garden fleahopper. This is more likely to be due to the egg parasites and possibly to fungus diseases.

POTATO BEETLE (Leptinotarsa decemlineata Say)

Virginia — Herbert Spencer (April 29): Several complaints from the eastern shore and Norfolk trucking districts of adult Colorado potato beetles on the early potatoes have been received. These insects seem much more numerous than usual at this time of the year.

North Carolina — F. Sherman (May 18): Reports from various sources indicate that this insect is more abundant than usual in the early-crop potatoes of eastern part of State.

Mississippi — R. W. Harned (May 23): The Colorado potato beetle was reported damaging tomatoes at Summit, Miss., on May 20.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

New York — C. R. Crosby and assistants (May 16): Moderate infestation has been noted fairly generally in Nassau County.

CORN EAR WORM (Heliothis obsoleta Fab.)

Mississippi — R. W. Harned (May 23): The tomato fruit worm was reported damaging tomatoes at Summit, Miss., on May 20.

SOUTHERN GREEN PLANT BUG (Nezara viridula L.)

Louisiana — H. K. Plank (May 13): Several specimens were received from New Orleans, with a report that they were abundant in a garden on tomatoes, and at Mandeville a grower had to abandon the growing of his crop altogether on account of injury from these bugs.

CABBAGE

CABBAGE CURCULIO (Ceutorhynchus rapae Gyll.)

Indiana — J. J. Davis (May 4): Within the last few days we have been receiving reports of injury to cabbage in seed beds by the cabbage curculio. The reports have come in from Lafayette and Crawfordsville, and at the present time the insect is in the egg and recently hatched larval stages. These are the first definitely reported attacks by this insect that have come to our attention during the last four years since I have been here.

CABBAGE MAGGOT (Hylemyia brassicae Bouche')

New York — C. R. Crosby and assistants (May 16): Although loss from this pest was severe last year only a few growers are planning to treat their seed beds for the control of this pest this year in Onondaga County.

Ohio — H. A. Gossard (May 22): The cabbage maggot is very numerous and is very injurious all over Ohio.

Indiana — H. F. Dietz (May 19): A heavy infestation of the cabbage maggot has been reported from the truck crop district south of Indianapolis.

Connecticut — W. E. Britton (May 22): At Windsor, Southington, and New Haven injury by this maggot is just beginning to show on early plants, some of which came from the South.

CABBAGE APHID (Brevicoryne brassicae L.)

North Carolina — F. Sherman (May 13): Several reports have been received. This is probably a season of moderate abundance but not epidemic.

Mississippi — R. W. Harned (March 20): On this date C. G. Wallace reports that plant lice are severely attacking cabbage in the vicinity of Water Valley, Miss.

Missouri — L. Haseman (May 13): In the southwestern part of this State the cabbage aphid is doing serious damage in a number of patches.

HARLEQUIN CABBAGE BUG (Murgantia histrionica Hahn)

Mississippi — R. W. Harned (April 18): Complaints are continuing from different parts of the State in regard to the abundance of the

Harlequin cabbage bugs this spring. A letter received today from a correspondent at Raymond emphasizes the value of mustard as a trap crop to protect the garden crops from this insect. This correspondent states that in her gardens there are hundreds of the bugs on the mustard, and not one can be found on rape, Irish potatoes, and other garden plants. She states that the mustard is of the old rough-leaf variety. (April 20): On this date C. G. Wallace reports the harlequin cabbage bug as fairly abundant in the vicinity of Water Valley on cabbage, mustard, and turnips.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

New York C. R. Crosby and assistants (May 2): About a week ago these flea beetles appeared in great numbers in Nassau County, and it was thought that very heavy loss would result to cabbage plants. At the present time, however, their attack has abated. (May 16): As in past years this pest is doing considerable damage in seed beds in Ontario County.

STRAWBERRY

RASPBERRY FRUITWORM (Byturus unicolor Say)

Connecticut B. H. Walden (May 22): At South Glastonbury this insect was observed for the first time on strawberries. Strawberries in a field adjoining a field of red raspberries which was removed this spring were attacked by this insect. Raspberries were badly infested with Byturus last year. The beetles were eating the stamens of the blossoms and into the young fruit that had formed.

CUTWORMS (Noctuidae)

Connecticut W. E. Britton (May 22): Reported from Coventry, Bolton, and Sinsbury attacking strawberries. At Simsbury two species had ruined one corner of a field (1/3 to 1/2 acres in a field of 2 to 3 acres), apparently the species are Agrotis ypsilon Rott., and Feltia venerabilis Walk., the former being the more abundant on May 20, when the field was visited by Mr. Walden.

A NITIDULID (Brachypterolus pulicarus L.)

New York C. R. Crosby and assistants (May 9): This small beetle is found in most strawberry plantings in Dutchess County, feeding on blossoms.

FLOWER THRIPS (Frankliniella tritici Fitch)

Missouri L. Haseman (May 5): In the southwestern part of the State some berrymen report that the thrips are so abundant on blossoms that they are blighting late blossoms. More abundant as compared with an average year.

Neely Turner (May 12): The thrips have been especially noticed since a late freeze in the southwestern part of the State, killing

some of the blossoms. The attacked blossoms often contained 50 to 100 immature thrips. The actual loss is probably small.

IMBRICATED SNOUT BEETLE (Epicaerus imbricatus Say)

Missouri — L. Haseman (May 12): In the southwestern part of the State a few strawberrymen reported abundance of beetles recently in strawberry fields, no serious damage being reported.

A STRAWBERRY SLUG (Empria fragariae Rohwer)

Nebraska — M. H. Swenk (April): The first report of injury to strawberries by the early strawberry slug, Empria fragariae, was received on April 17 from Lancaster County.

STRAWBERRY LEAF ROLLER (Ancylis comptana Froehl.)

Missouri — Neely Turner (May 12): The first brood is well along and they are present in somewhat unusual numbers in the southwestern part of the State. Very few of the growers are spraying this season and the pest may cause some damage later in the summer. Abundance as compared with an average year seems to be more than usual.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

New York — C. R. Crosby and assistants (May 9): Has been noted in many plantings in Dutchess County but the injury so far is slight. (May 13): Injury first noted on this date in Ulster County.

North Carolina — F. Sherman (May 13): This pest is reported as more destructive than usual in commercial strawberry fields in southeastern part of the State.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Connecticut — W. E. Britton (May 22): At Barkhamsted, Windsor, and Southington this insect is attacking asparagus. Both species appearing in Southington.

Maryland — E. N. Cory (April 27): At College Park this insect is attacking asparagus and is more abundant at this time than in previous year.

Indiana — J. J. Davis (May 25): Reported on May 19 from Marion as destructive.

Iowa — C. J. Drake (May 7): The common asparagus beetle occurs in large numbers at Oelwein. The beetles are depositing eggs.

BEANS

IMBRICATED SNOUT BEETLE (Epicaerus imbricatus Say)

Tennessee — S. Marcovitch (April 1): Several acres of garden beans destroyed by the imbricated snout beetle at Knoxville.

BEAN LEAF ROLLER (Goniurus proteus L.)

orida G. L. Garrison (May 18): Garden beans were heavily infested by the bean leaf roller at Quincy. Lead-arsenate spray gave good control.

CORN EAR WORM (Heliothis obsoleta Fab.)

orida F. S. Chamberlin (May 5): Snap beans in Gadsden County are slightly infested with larvae of the corn ear worm.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

w York E. P. Felt (May 25): Attacked sprouting lima beans at Wading River, L. I., occasioning some complaint. The injury is probably consequent on cool wet weather.

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

io H. A. Gossard (May 22): Mexican bean beetles appeared in the field at Chillicothe on May 12, and eggs were deposited on cages on May 15.

PEAS

CORN EAR WORM (Heliothis obsoleta Fab.)

xico A. W. Morrill (May 11): This insect was unusually abundant in the vegetable growing sections of the west coast of Mexico (States of Sonora and Sinaloa) during the months of February, March, and April. One close observer, superintendent of a ranch, reported about 1 per cent infestation in the peas brought to the packing shed. The harvesting season was over so it was too late to verify the percentage, but specimens were found in the old fields sufficient for identification. About one hundred miles south in the Sinaloa River Valley the manager of a ranch where several hundred acres of peas were grown for spring shipments reported an average of approximately 15 per cent damage by the bollworm. An examination of 114 pods selected at random from the bins in the packing shed showed 55 or approximately 50 per cent damaged with a total of three live specimens present inside the pods. This is the first time in my four years contact with West Coast vegetable growing conditions that an attack of this kind to peas has been reported or observed. In the Fuerte Valley at about the same latitude as the point where the above mentioned observations were made in the Sinaloa Valley there has been an unusual amount of damage to tomatoes from the bollworm. This damage had reached as high as 20 per cent in some fields, and was increasing when my last observations were made about the 20th of April. In the Culiacan Valley, less than 100 miles farther south, early in April it was observed that bollworm damage was much more extensive than observed during the last four years. A rough estimate in one field of 300 acres placed the damage at not less than 25 per cent.

PEA APHID (Illinoia pisi Kalt.)

Mississippi — R. W. Harned (April 21): Mr. F. A. Wright, of the Bureau of Entomology, with headquarters at Bay St. Louis, reports on April 21 as follows: In this vicinity the pea aphis is causing a great deal of damage, both to garden peas and sweet peas, and in some instances they have caused almost total destruction. This is the first serious damage I have observed in this locality.

CUCUMBERS

POTATO FLEA-BEETLE (Epitrix cucumeris Harr.)

Connecticut — W. E. Britton (May 22): At Southington, Windsor, Locks, and Plainsville, this insect is reported attacking tomatoes and cucumbers.

SPRINGTAILS (Smynthurus sp.)

Virginia — Herbert Spencer (April 29): Springtails are attacking cucumbers, cantaloupes, and squashes in the Norfolk trucking section. These insects appear regularly every year about this time and do considerable damage to these crops.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Indiana — H. F. Dietz (April 28): The striped cucumber beetle was reported as working on young muskmelons plants in "flats" in cold frames at Decker on April 16.

MELONS

MELON APHIS (Aphis gossypii Glover)

California — B. A. Harrigan (April 20): This insect is reported as doing considerable damage this year. It is practically impossible to cite specific localities where injury has occurred as it has been so general and extensive.

ONIONS

ONION THRIPS (Thrips tabaci Lind.)

California — B. A. Harrigan (April 20): This insect is reported as doing considerable damage this year. It is practically impossible to cite specific localities where injury has occurred as it has been so general and extensive.

ONION MAGGOT (Hylemyia antiqua Meig.)

Indiana — J. J. Davis (May 25): Onion maggots were reported from Milford on May 19.

Illinois — W. P. Flint (May 22): C. C. Compton reports the onion maggot adults in the northern Illinois trucking sections on May 12. This was the first heavy emergence of adults during the present spring.

SPINACH

SPINACH LEAF MINER (Pegomya hyoscyami Panz.)

onnecticut — R. B. Friend (May 23): Adults emerged in New Haven May 10-22; also reported from Middletown.

aryland — E. N. Cory (April 27): Eggs and larvae in abundance on spinach at College Park.

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

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

ENERAL TATEMENT — Co-operative Report on Boll Weevil Emergence from Cage Tests Prior to May 1.

The percentage of weevils placed in cages last fall which had emerged prior to May 1 at the different points is shown in the following table:

Locality	Per cent of number put into cages which have emerged
Auburn, Alabama	11.54
College Station, Texas	5.27
Florence, South Carolina	4.66
Baton Rouge, Louisiana	4.37
Clemson College, South Carolina	2.78
Experiment, Georgia	1.33
Aberdeen, North Carolina	.84
Rocky Mount, North Carolina	.32
Holly Springs, Mississippi	.08
Tallulah, Louisiana	.01

The most interesting figure so far this spring is the exceedingly high emergence of 11.54 per cent at Auburn, Ala. Approximately the same number of weevils were placed in the same cage during the fall of 1923 and up to this date in 1924 no weevils had emerged.

At Florence, S. C., the emergence in 1924 prior to May 1 was 0.15 per cent: This year, however, the emergence prior to May 1 was 4.66 per cent.

The survival at College Station, Tex., continues to approach a normal one.

At Tallulah, La., in the average of nine years, about 40 per cent of the total emergence has been completed by May 1. The average emergence prior to May 1 in the last nine years is about 0.60 per cent. This year, however, the emergence is only 0.01 per cent.

It is interesting to note that the weevil emergence is still progressing, further indicating that the weevils have been able to survive the winter in fair numbers at most stations.

Co-operative Report on Boll Weevil Emergence from Cage Tests Prior to May 16.

The percentage of weevils placed in cages last fall which had

emerged prior to May 16 at the different points is shown in the following table:

Locality	Per cent of number put into cages which have emerged.
Auburn, Alabama	13.49
Baton Rouge, Louisiana	5.58
College Station, Texas	5.49
Florence, South Carolina	5.15
Clemson College, South Carolina	3.28
Experiment, Georgia	1.44
Aberdeen, North Carolina	.84
Rocky Mount, North Carolina	.37
Holly Springs, Mississippi	.08
Tallulah, Louisiana	.01

At Tallulah, La., in the average of the last nine years, about 65 per cent of the total emergence has been completed prior to May 16. The average emergence prior to this date has been about 0.99 per cent. This year the emergence to the same date was only 0.01 per cent.

At Florence, S. C., 56 per cent of the total emergence was completed prior to May 16 in 1924, The emergence was 0.19 per cent. This year the emergence prior to the same date was 5.15 per cent.

At points near College Station, Tex., in 1906, 1907, and 1908, the average total survival was 5.2 per cent. About 92 per cent of the total emergence was completed in these years prior to May 16. The average emergence on the same date was about 4.8 per cent. This year on the same date the emergence was 5.49 per cent.

At Auburn, Ala., in 1924 no weevils had emerged under the same cage condition prior to May 16, while this year 13.49 per cent had emerged.

It is interesting to compare the weevil emergence during the last three fifteen-day periods. At all points, with the exception of Auburn, Ala., a total of 293 weevils emerged from April 1 to 15, a total of 639 weevils from April 16 to 30, and a total of 210 from May 1 to 15.

At Brownsville, Tex., on May 14, Mr. T. C. Barber examined 142 fallen cotton squares for weevil stages. In this number 61 larvae, 9 pupae, and 1 adult that had emerged were found, making a total of 71 living weevil stages. The most interesting point is the fact that adults weevils of the first brood have just started to emerge. These squares were collected in a field that was estimated to have 362 hibernated weevils per acre on April 15. The weevil infestation in that vicinity is extremely spotted, in some places being very heavy and in others very light.

North Carolina Franklin Sherman (May 13): We have five field cages under observation, stocked with 3,249 weevils. However, I think our truest inference may be drawn from two particular cages which appear to approach closest to natural conditions of hibernation.

At the end of April, in one of these cages (in the southern portion of the State) 1.40 per cent of the weevils had emerged; in the other cage (northeastern portion of the State) 1.06 per cent had emerged. Combined they show an emergence of 12 out of 949 weevils, or 1.26 per cent at the end of April, and this, I believe, to be our truest indication of what has happened in North Carolina. Messrs. Lieby and Harris in work with peach insects at Aberdeen, N. C., jarred the boll weevil from peach trees in mid-April.

abama — J. M. Robinson (April 29): Boll weevils have been verybactive the last week in emerging from hibernation cages in rather large numbers. As many as 116 emerged in one day.

COTTON LEAFWORM (Alabama argillacea Hbn.)

xas — F. L. Thomas (telegram dated May 27): Larvae of Alabama argillacea were abundant in two fields ten miles south of here (Corpus Christi). High percentage of natural control, as most of the pupae found were dead. Farmers are spraying and dusting.

T. C. Barber (May 23): Have observed light outbreaks of the cotton leaf caterpillar in at least two fields in the Brownsville locality. This is unusually early in the season for this insect to appear.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

uisiana — J. W. Ingram (May 11): The stand of cotton was being seriously thinned by sugarcane beetles in a field about one mile north of Mermentau. Many dead and dying cotton plants were dug up and beetles were found feeding on them.

CUTWORMS (Noctuidae)

abama — J. M. Robinson (April 29): The young cotton in southern Alabama has been attacked by one of the cutworms. There were as many as twelve picked up on a little over an acre of ground. Many of the fields are being replanted.

WOOLLY-BEAR CATERPILLAR (Diacrisia virginica Fab.)

xas — F. L. Thomas (May 9): The second brood has occurred this season at Palacios, Matagorda County, in southern Texas. Caterpillars are abundant and may cause considerable damage if not controlled.

COTTON APHID (Aphis gossypii Glover)

xas — J. L. Webb (May 12): G. A. Maloney of the Tallulah Laboratory reports the cotton louse active on cotton in southern Texas.

TOBACCO

CUTWORMS (Noctuidae)

rginia & ntucky — S. E. Crumb (May 21): Mr. Gilmore recently sent me a lot of cutworms taken injuring newly-set tobacco with the request that I determine them and send the determination to you. The material

was from Appomattox, Virginia, and consisted of the following species.

Feltia ducens Walker ..... 26 larvae
Feltia gladiaria Morr. ..... 2 larvae
Polia renigera Stephens ..... 1 larva.

There is considerable complaint of cutworm injury in tobacco plant beds in the region about Lexington. The principal species concerned is Feltia gladiaria Morr.

BUDWORM (Heliothis virescens Fab.)

Florida F. S. Chamberlin (May 8): At Gadsden the budworm infestation on tobacco is much below normal at the present. This is apparently due to the prolonged drought which either delays or prevents the emergence of moths from the soil.

GREEN PEACH APHID (Myzus persicae Sulz.)

Florida F. S. Chamberlin (May 4): This species of aphid has been taken from tobacco plants recently at Quincy. It does not appear to thrive upon this food plant and no damage to the crop has yet been observed.

RICE

RICE-STALK BORER (Chilo plejadellus Zinck.)

Louisiana J. W. Ingram (May 15): The first moth emerged in the hibernation cages at Crowly on this date.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana J. W. Ingram (May 21): The damage to rice by sugarcane beetles has continued heavy in unflooded fields during the month at Crowley. In the flooded fields the damage to rice on the levees has been heavy, in some cases resulting in a loss of as much as one-half of the stand.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Georgia Monthly Letter of the Bureau of Entomology No. 132 (April): The first definite record of the sugarcane moth borer in the region of Cairo, Ga., has been furnished by Dr. P. A. Yoder, of the Bureau of Plant Industry, who brought a living specimen to this Bureau for identification.

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

MISCELLANEOUS FEEDERS

JUNE BEETLES (Phyllophaga spp.)

Missouri L. Haseman (May 14): At night the beetles are so abundant in trees in central Missouri as to sound like a swarm of bees. About

4 or 5 different species are represented.

GIPSY MOTH (Porthetria dispar L.)

California — Weekly News Letter, Calif. S. D. A., Vol. 7, No. 9 (May 2): Nine kinds of insect pests were found upon inspection of 1,027 oak logs from Japan. Among the insect pests taken was an egg mass of the dreaded gipsy moth.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Missouri — L. Haseman (May 12): This pest was very serious last year and we are expecting a heavy infestation again this year. Have already been hatching in laboratory and will soon be out in field. Attacking evergreens and shade trees mostly, and is general over the State.

Arkansas — W. J. Baerg (April 30): Bagworms began hatching on April 25. Judging from the numerous parasites that have emerged from bags collected in the field during the winter time, the bagworms will probably appear in reduced numbers, and in this locality (Fayetteville), at least, severe injury by bagworms is not expected.

Kansas — J. W. McColloch (May 21): Bagworms are reported on cedars in Franklin and Wilson Counties.

ARBORVITAE

RED SPIDER (Tetranychus sp.)

Mississippi — R. W. Harned: (We have been notified by James Brodie of Biloxi, that arborvitae plants in that vicinity are being seriously attacked by the red spider.

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

New York — E. P. Felt (May 25): The work of this insect is somewhat prevalent here and there on Long Island ornamentals and has also been reported from Rochester, the latter by Mr. R. E. Horsey of the Department of Public Parks of that City. The species attacks Thuja occidentalis and also T. plicata but does not affect T. orientalis, nor T. standishi according to Mr. Horsey.

BASSWOOD

TINGIDS

Minnesota — C. E. Mickel (May 4): At Savage, in the heavy woods, the leaves of basswood were rather heavily infested with tingids. These insects, however, do not appear to be general in their distribution, as they have not been found on basswoods in other localities.

BOX-ELDER

BOX-ELDER Aphid (Periphyllus negundinis Thos.)

Indiana — H. E. Dietz (April 29): Boxelder aphid from Connersville submitted

on April 25 for identification. According to the report received the lice were abundant enough on the infested trees to cause them to shed part of their leaves.

Nebraska M. H. Swenk (April): The boxelder aphid was reported injuring boxelder foliage on April 25 from Kearney County.

CAMPHOR

CAMPHOR SCALE (Pseudaonidia duplex Ckll.)

Louisiana H. K. Plank (May 14): A number of twigs and leaves moderately to heavily infested with this scale were received with a note that the trees infested were purchased in New Orleans about 1920. This is the first infestation known to occur in Vermilion Parish.

ELM

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Alabama J. M. Robinson (April 29): At Decatur the elm trees are heavily infested with the woolly apple aphid.

ELM APHID (Myzocallis ulmifolii Monell)

California White C. Barber (May 5): Serious honeydewing, on ornamentals along streets and highways at Bakersfield.

ELM BORER (Saperda tridentata Oliv.)

Nebraska M. H. Swenk (April): Correspondence indicated about the normal amount of trouble with the elm borer.

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

New York E. P. Felt (May 25): Adults have wintered in large numbers in houses in several Hudson Valley localities and present indications are favorable for severe injury in numerous areas where the insect was abundant last year.

Ohio E. W. Mendenhall (May 15): Spraying is carried on here quite extensively for the elm pests. It is one of the first outbreaks of the elm leaf beetle here, (Dayton).

ELM SCURFY SCALE (Chionaspis americana Johns.)

Indiana J. J. Davis (April 30): Eggs of this species on elm are hatching at Lafayette. May have begun to hatch a day or two before.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Connecticut W. E. Britton (May 13): At Rainbow (Town of Windsor), new leaves are apparently mined. Twigs brought in by W. O. Filley, Forester.

OAK

OAK LECANIUM (Lecanium quercifex Fitch)

Alabama — J. M. Robinson (April 29): The scale insect on water oaks, Lecanium quercifex, has been attracting considerable attention in many localities in the State.

CALIFORNIA OAK WORM (Phryganidia californica Packard)

California — H. E. Burke (April 27): At Palo Alto the California oak worm is much more abundant than for the last four years. Many estate owners are now spraying for it.

OAK ERIOCOCCUS (Eriococcus quercus Comst.)

California — T. D. Urbahns (March 28): At Victorville this insect is abundant on oak. Specimens determined by Dr. E. P. Felt.

KERMES SP.

Alabama — Neale F. Howard (May 12): This is the first year that we have received complaints of damage at Birmingham. A specimen has been brought in and two phonecalls have been received. Determination made by Wm. Middleton.

PINE

NANTUCKET PINE MOTH (Rhyacionia frustrana Comst.)

Louisiana — Monthly Letter of the Bureau of Entomology No. 132 (April,1925): While on a recent trip to Bogalusa, La., Mr. St. George collected a large quantity of longleaf pine shoots (Pinus palustris) which were heavily attacked by the Nantucket pine moth. This year's growth was heavily infested with young larvae.

WHITE GRUBS (Phyllophaga spp.)

Maine — Edith M. Patch (April 27): Thousand of white pine seedlings (two year seedlings) killed in State Forestry Nursery on U. of M. Campus. They did not attack Scotch pine or Austrian pine but killed out 90 per cent of the white pine. Similar damage is reported in European nursery stock. Several years ago we had a similar attack in the same nursery.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Indiana — J. J. Davis (April 30): I noticed eggs of this insect hatching today.

H. F. Dietz and J. J. Davis (May 8): Active crawlers were observed at Indianapolis. Probably at least 60 per cent have hatched and it is believed that hatching has been going on for at least a week.

Nebraska M. H. Swenk (April): About the normal amount of trouble with the pine-leaf scale.

WILLOW

COTTONWOOD LEAF BEETLE (Lina scripta Fab.)

Indiana F. N. Wallace (April 29): Poplar and willow-leaf beetles, Lina scripta Fab. and L. interrupta Fab., were observed in numbers on willows north of Indianapolis on April 23.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

APHIDIDAE

Virginia W. S. Abbott (May 18): Aphids are numerous on ornamentals of all kinds at Fairfax.

Georgia Oliver I. Snapp (May 15): There has been scarcely any rain at Fort Valley for two months. Aphids, which were very abundant earlier in the season, are now giving no trouble.

TULIP SCALE (Toumeyella liriodendri Gmel.)

Georgia Oliver I. Snapp (April 1): A banana shrubs at Montezuma was very heavily infested with this scale.

AZALEA LEAF MINER (Gracilaria azaleaella Meyr.)

Wisconsin E. L. Chambers (January 10): Has been injurious in greenhouse for several years at Milwaukee, attacking azalea.

ONION THRIPS (Thrips tabaci Lind.)

Indiana H. F. Dietz (May 19): Very abundant on various flowers all over the State.

RED SPIDER (Tetranychus telarius L.)

Indiana H. F. Dietz (April 28): This pest was reported as damaging young evergreen seedlings in a nursery south of Indianapolis on this date.

FLORIDA RED SCALE (Chrysomphalus aonidum L.)

Louisiana H. K. Plank and assistants (May 13): Since the freeze of January, 1924, this scale has not been noted on any out-of-door plants, except those which have been recently transplanted from greenhouses. In this locality (New Orleans) this pest is chiefly confined to greenhouses and conservatories, and it is of considerable economic importance there, as heretofore.

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

uisiana H. K. Plank (May 12): The increase of this pest at New Orleans during the past fall and winter was sufficient to cause general alarm, and fear was entertained by some that the infestation would approach the seriousness of that of 1915-1917, when numerous other plants than Pittosporum tobira, Plumbago sp., Ulmus sp., Ficus pumila, and Magnolia grandiflora, were heavily infested and considerably injured before Novius cardinalis could be satisfactory colonized. However, since the finding of larvae of the Novius at work on numerous infestations throughout the city on February 3, 1925, and subsequently, the abundance of the cottony cushion scale has been so reduced that it is now very difficult to find any live adults anywhere in the city. The injury to the hosts mentioned has therefore been comparatively slight.

DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi Morg.)

uisiana H. K. Plank and assistants (May 13): Since the freeze of January, 1924, this scale has been increasing only very gradually and very locally. It is still of comparatively no economic importance out-of-doors, except on a few cycads and climbing figs in one or perhaps two places in the city. Attacking Cycas revoluta, Ficus pumila, and Cinnamomum camphora.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Labou.)

ew York C. R. Crosby and assistants (May 16): Hedges in one locality in Nassau County were very severely infested with this leaf miner.

E. P. Felt (May 25): Is locally abundant and very injurious to ornamental box in the southern Hudson Valley and on Long Island, individual plantings here and there being very seriously infested.

ennsylvania C. A. Weigel (May 14): Mr. Doucette reports that Mr. Smith, who represents the Pennsylvania Bureau of Plant Industry, has reported the first emergence of the boxwood leaf-miner, Monarthropalpus buxi Labou., adults on May 8.

COLUMBINE

COLUMBINE LEAF-MINER (Phytomyza aquilegiae Hardy)

ebraska M. H. Swenk (May 25): Cultivated columbine plants seriously damaged early in May in Boone County.

SERPENTINE LEAF-MINER (Agromyza pusilla Meig.)

ndiana H. F. Dietz (May 19): Bad on Aquilegia (columbine) around Indianapolis.

COLEUS

GREENHOUSE ORTHEZIA (*Orthezia insignis* Doug.)

New York — C. R. Crosby and assistants (February 7): Badly infested plants were received from Rochester attacking coleus.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (*Diarthronomyia hypogaea* F.Loew)

Wisconsin — E. L. Chambers (January 19): At Wauwatosa this insect was attacking chrysanthemums, in a greenhouse.

CAPE JESSAMINE

CITRUS WHITEFLY (*Dialeurodes citri* Ashm.)

North Carolina — F. Sherman (May 13): Several times complained of as a pest on foliage of Cape Jessamine plants.

HOLLY

HOLLY LEAF-MINER (*Phytomyza ilicis* Curtis)

New York — E. P. Felt (May 25): Has maintained itself for several years at Least in the vicinity of Westbury, L. I., seriously infesting groups of holly on several estates.

LILAC

OYSTER-SHELL SCALE (*Lepidosaphes ulmi* L.)

Indiana — B. A. Porter (May 21): Two serious infestations on lilac reported. Young scales first noted on May 6, but had been hatched for several days, probably since April 26, since the weather between these dates was unseasonably cold.

IRIS

IRIS ROOT BORER (*Macronoctua onusta* Grote)

Indiana — H. F. Dietz (May 19): The iris root borer is very well scattered over the State and is unusually abundant this year, doing great damage to ornamental plantings.

ROSE

GREEN FRUITWORMS (*Xylina* spp.)

Indiana — H. F. Dietz (May 19): A number of larvae of the green fruit cutworms, *Xylina* spp., have been collected, feeding on rose buds in gardens around Indianapolis.

FLOWER THRIPS (*Frankliniella tritici* Fitch)

Indiana — H. F. Dietz (May 19): Thrips very abundant on various flowers

Mississippi — R. W. Harned (May 21): During the past month many complaints have been received from all parts of Mississippi in regard to the injury caused to roses by thrips. Specimens received from several correspondents have been sent to Prof. Glenn W. Herrick at Cornell University. In each case only nymphs were present. Prof. Herrick has tentatively identified them as Frankliniella tritici.

SURINAM ROACH (Pycnoscelus surinamensis L.)

Pennsylvania — C. A. Weigel (May 14): Under date of April 2, we received specimens of the Surinam roach, Pycnoscelus surinamensis, from the vicinity of Philadelphia. In the letter which accompanied these specimens the statement was made that they were seriously injuring roses grown in greenhouses. This species has previously been reported as injurious to roses, lilies, poinsettias, and other plants grown under glass.

Mr. Doucette in a letter dated May 10 makes the following report: A very heavy infestation of the Surinam roach has been discovered through H. F. Dietz and T. L. Guyton in one of the large commercial rose houses in this vicinity. An examination of this infestation revealed that they were feeding on rose and that the infestation is so heavy that the stems of probably 30,000 or more plants have been girdled for about 2 to 4 inches above the ground, which will make it impossible for the plants to "come back" after they have been rested and "cut back." We have seen only 3 or 4 cases of feeding on any other parts of the plants. The owners have already used over 150 gallons of kerosene in trying to control these roaches. This has been applied on the walks and on the edges of the rose beds. The infestation is still very heavy although very large numbers have been killed by the oil. We are now conducting experiments with various insecticides and chemicals that have been reported as effective against this species.

POTATO APHID (Illinoia solanifolii Ashm.)

New York — C. R. Crosby and assistants (May 16): Has been observed to be very abundant on this host in certain areas.

SPIRAEA

APHIDIDAE

Indiana — J. J. Davis (April 30): Plant lice are unusually abundant at Lafayette; aphids on spiraea and honeysuckle especially abundant. Parasites and predacious enemies becoming abundant.

Missouri — L. Haseman (May 14): This louse is with us every year at this season. I am not sure as to the species. It is general all over the State.

SNOWBALL

SNOWBALL APHID (Anuraphis viburnicola Gill.)

Nebraska — M. H. Swenk (April): The first complaint of injury by the snowball aphid was received from Platte County on April 27.

BLUE GRASS

WHITE GRUBS (Phyllophaga spp.)

Kansas J. W. McColloch (May 21): Severe injury to blue-grass lawns by white grubs has been reported from Scott City and from Sawyer.

INSECTS AFFECTING MAN AND DOMESTIC ANIMALS

MAN

FLEAS (Siphonaptera)

Indiana J. J. Davis (April 30): Reports of serious outbreaks of fleas at LaCrosse, LaPorte, and Greensburg. In some instances fleas are so bad in farm buildings that they are carried into the house so as to make it unbearable even at night in bed.

Missouri L. Haseman (May 12): We have never had so many calls for control recommendations for fleas so early in the year. It is widely distributed all over the State.

DOG FLEA (Ctenocephalus canis Bouché)

Mississippi K. L. Cockerham (May 21): The common dog flea has been a household pest in this vicinity (Biloxi) during all the spring, especially during April and May. Instances have occurred where it was necessary to apply insecticides to rid dwellings of them. Creolin washes, kerosene spray, and flaked naphthalene were used effectively.

Nebraska M. H. Swenk (April): Much more than the normal number of complaints of infestations, past and developing, with the dog flea.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Nebraska M. H. Swenk (May 25): A woman seriously infested by this tick in Kearney County on May 5th.

CATTLE

CATTLE GRUBS (Hypoderma bovis DeG. and H. lineatum DeVill.)

Ohio F. C. Bishopp (April 16): Cattle evidently being attacked today by heel flies, H. lineatum. A considerable number of grubs are still present in backs of cattle. Species not determined.

HORN FLY (Haematobia irritans L.)

Ohio F. C. Bishopp (April 16) A few horn flies, present on cattle, probably do not average more than 4 or 5 per head. (April 28): Horn flies now average as high as 100 per head on some herds and are causing some annoyance.

BLACK FLY (Simulium spp.)

Ohio F. C. Bishopp (April 28): Two species of Simulium were found to be attacking dairy cows. A good number were present but were not numerous enough to cause worry.

POULTRY

SMALL BODY HEN LOUSE (Menopon pallidum Nitzsch)

Ohio F. C. Bishopp: Numerous in the vicinity of Columbus.

CHICKEN FLUFF LOUSE (Goniocotes hologaster Nitzsch)

Ohio F. C. Bishopp (April 10): Numerous in the vicinity of Columbus.

CHICKEN HEAD LOUSE (Lipeurus heterographus Nitzsch)

Ohio F. C. Bishopp (April 10): Head lice not so generally distributed in the different pens at Columbus.

LARGE BODY HEN LOUSE (Menopon biseriatum Piag.)

Ohio F. C. Bishopp (April 10): Body lice, Menopon biseriatum, very abundant on some of the fowls in certain pens at the poultry plant of the Ohio State University.

CHICKEN MITE (Dermanyssus gallinae Redi)

Missouri L. Haseman (May 12): In the central part of Missouri these mites are worse than I have ever seen them before. As compared with an average year they seem to be more abundant.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Indiana J. J. Davis (May 25): Has been reported injuring poultry from Corydon May 18, West Baden May 22, and Evansville May 23. The county agent at Evansville writes that the infested area is larger than last year and that the beetles are feeding on cherries, peaches, grapes, plums, garden beans, curly dock, locust, mulberries, and a number of shrubs.

RAT LICE

Indiana J. J. Davis (May 25): White rats used for experimental purposes were reported by a company in Evansville May 9 as heavily infested with lice. The species has not yet been determined.

INSECTS INFESTING HOUSES

AND PREMISES

ANTS (Formicidae)

Mississippi R. W. Harned (May 23): Complaints have been received from several

parts of the State in regard to ants this spring.

Nebraska — M. H. Swenk (April): More than the usual number of inquiries on the control of ants in lawns are being received, indicating a supernormal amount of injury of that sort.

HOUSE FLY (Musca domestica L.)

Ohio — F. C. Bishopp (April): On April 5 a few house flies were present, some entering office buildings and residences. (April 17): House flies have increased considerably in number and are now causing some annoyance in residences. (April 28): No material increase in number of house flies apparent since April 17.

TERMITES

North Carolina — F. Sherman (May 13): Reticulitermes flavipes reported as destructive to fire hose, possibly a new "food plant."

Ohio — H. A. Gossard (May 22): Termites were reported attacking a dwelling house at Harpster, April 8. Each year we get a greater number of reports of damage of this kind than in the preceding year. Furnace-heated houses and basements are making life possible for these tropical insects and all old construction houses with timbers in contact with the earth seem ultimately doomed to destruction unless concrete foundations are put in.

Indiana — J. J. Davis (May 25): Injury to woodwork in a house reported on May 2 from Monticello.

Illinois — W. P. Flint (May 22): A number of reports of damage by Reticulitermes flavipes Kol. have been received during the last two months. Several of these have been investigated and in at least two cases the damage will amount to several thousand dollars. One of these, a modern brick schoolhouse with wooden floor timbers and wooden sheathing on the stairs and doorways, has been damaged to such an extent that the interior will have to be refinished throughout.

Kansas — J. W. McColloch (May 21): Termite injury to dwellings has been reported from Parsons and Great Bend. At Manhatten termites ruined the woodwork in one of the largest business houses. A sample of flour was received from Clay Center which had been infested by termites. Undoubtedly the sack of flour had been resting on a wood floor.

Nebraska — M. H. Swenk (April): Another report of injury to a house by the termite Reticulitermes tibialis Banks was received during April from Fairfield in Clay County. (May 18): A house in Hall County was reported as damaged by this insect on this date.

A LAWN ANT (Myrmica brevinodis Emery)

Montana — R. A. Cooley (May 4): Troublesome on lawns and entering houses at Bozeman; widely distributed in Montana, reported this year and every year.

A MYRIAPOD (Scutigerella immaculata Newp.)

hio — H.A. Gossard (May 22): The symphylid Scutigerella immaculata Newport was doing considerable damage to greenhouse crops in Cincinnati in April. Some growers think damage is reduced by using plenty of well-rotted barnyard manure. This decaying organic matter supplies the natural food of the insect so it is not obliged to attack growing crops, according to the theory of these growers.

CLOVER MITE (Bryobia praetiosa Koch)

isconsin — S. B. Fracker (May 1): Two reports of invasion of houses by mites coming from clover in lawns at Milwaukee and Waupaca.

INSECTS INJURIOUS TO

STORED PRODUCTS

SOUTHERN COWPEA WEEVIL (Mylabris quadrimaculatus Fab.)

alifornia — Monthly Letter of the Bureau of Entomology No. 132 (April): In April C. K. Fisher examined, at Chino, Calif., a stock of bean straw which had stood out in the open two winters and one summer. Many black-eyed cowpeas were found infested with Mylabris quadrimaculatus Fab. Enough weevils were found breeding in the seeds which had escaped the threshing operation to furnish a source of infestation for the coming growing season. Last fall an investigation of infestations in the Chino region showed that this same stock of bean straw was responsible for infestation in 1924 of beans growing as far as one and one-fourth miles away. Mr. Fisher also found Mylabris obtectus Say breeding in another stock of red kidney bean straw two years old.

BEAN WEEVIL (Mylabris obtectus Say)

isconsin — S. B. Fracker (March 1): The unusual number of complaints were received during the winter. It is general throughout Wisconsin.

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella Ol.)

aryland — Perez Simmons and Geo. W. Ellington (May 23): Adults of the Angoumois grain moth began to emerge May 23 at Silver Spring from infested wheat stored during the winter at out-door temperature.

NOTES FROM THE FEDERAL HORTICULTURAL BOARD

INTERCEPTIONS

April, 1925

The following important interception was recently reported by the inspector at Philadelphia. A bundle of broomcorn, manifested as whisk brooms, was found in cargo discharged from the SS. Ossa from Italy. Specimens of the European corn borer (Pyrausta nubilalis Hbn.) were collected from the shipment which was abandoned by the consignee and destroyed.

On February 14,1925, a collaborator of the Federal Horticultural Board found a sack containing several hundred citrus leaves in the suitcase of a passenger arriving at Key West from Cuba. The passenger was going to Tampa, Florida. The leaves were infested with citrus blackfly. This interception presents a striking example of the necessity of close supervision of baggage inspection.

Since the last issue of the letter of Information, determinations have been received for interceptions of larvae, pupae, and adult oof Mediterranean fruit fly (Ceratitis capitata Wied.) as follows: In commercial shipments of oranges from Spain, taken at New York, January 19th, 23d, and 26th; in commercial shipments of sour oranges from Sicily at New York, January 30th, February 11th and 17th; in bitter oranges from Italy at New York, February 11th, in tangerines, Mandarin var., arriving at New York as cargo from Messina, Italy, January 19th; in green olives from passenger's baggage from Italy at New York, December 6th,1924, and in quince from passenger's baggage from Syria at Providence, R. I. November 13,1924.

The larvae of the West Indian fruit fly (Anastrepha fraterculus Wied.) were taken by a New York inspector from guavas from Porto Rico, December 24, 1924. The guavas were brought in as baggage.

An unidentified species of Anastrepha was found at New York February 5,1925, infesting mangos from Peru. The mangos were in ship's stores.

A very important interception is credited to the Board's collabotator at Jacksonville, Florida, who found in the post office at Jacksonville and diverted to Washington, D.,C.,about February 1st, a package from Cuba containing cotton bolls. The bools were infested with living larvae of the pink bollworm.

Philopedon plagiatus Schallen, a European weevil of the family Otiorhynchidae, which is not known to occur in this countyy, was taken from vegetable seed arriving by mail at the Inspection House

in Washington, D. C., from Holland, January 30,1925. The specialist who identified the weevil states that it is an injurious species.

A mealybug (Pseudococcus maritimus Ehr.) on apple from the Azores was collected at Providence, R. I., by inspectors from Boston, October 22,1924. The specialist who made the identification stated: " I believe a new distribution record."

An identification has recently been received of a potentially dangerous potato weevil (Epicaerus cognatus) specimens of which were collected at Galveston, Texas, October 17,1924, in potatoes from Vera Cruz, Mexico. The potatoes were in ship's stores. So far as is known this insect does not occur in the United States.

Inspectors at Key West, in the ordinary course of routine inspection work, March 28,1925, discovered in the ship's stores of a Standard Oil Tanker from Tampico, Mexico, a quantity of grapefruit and oranges. Inspection of this material showed no external evidence of infestation of any kind, that is, of fruit fly. A number of the fruits were cut and in three of the grapefuit a large number of larvae were discovered. None were found in the oranges which were dissected. Specimens were forwarded to Washington and identified by the specialists as larvae of Anastrepha ludens Loew. The above interception strikingly emphasizes the danger of introducing pests in stores of oil tankers and clearly shows that the iinspection of such vessels is very necessary.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 July 1, 1925 Number 4

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

INSECT PEST SURVEY BULLETIN

Vol. 5 July 1, 1925 No. 4

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR THE MONTH OF JUNE, 1925

The outstanding feature for the month and in fact for the entire spring and early summer is the general destructive prevalence of cutworms extending from Maine to Oregon and south to the Gulf, practically every State from which reports were received mentioning their serious abundance.

The chinch bug is appearing in threatening numbers in south-central Illinois, southwestern Missouri, Nebraska, and Kansas, and these insects are reported as more troublesome than they have been in the past 18 years in the Yazoo-Mississippi Delta region.

Considering the country as a whole the grasshopper situation is not serious. In the Great Plains region they appear to be less numerous than they have been for the last 15 years.

White grubs are generally numerous and destructive in the Mississippi Valley and heavy flights of beetles are reported from Pennsylvania.

The Hessian fly situation has not materially changed from the condition reported last month.

The stalk borer is appearing in unusually destructive numbers in the east-central States.

The codling moth appears to be more numerous than usual in Indiana, Illinois, and Arkansas, and the tent caterpillar seems to be as serious as last year over New England.

The plum curculio situation seems to be very favorable over the southern peach belt.

The seed corn maggot is reported as more or less destructive to truck crops in New York, Ohio, Wisconsin, Nebraska, Montana, and Oregon.

In Ohio and Indiana the banded flea beetle has been unusually destructive this season.

The most serious infestation by garden slugs attacking truck and other plants is recorded from Sonoma and Sacramento Counties, California.

The tomato suckfly is reported for the first time as a pest in Mississippi, and the Australian tomato weevil has been reported from Escambia County, Florida.

The cabbage maggot is reported from New York State westward through Ohio to Indiana, Illinois, and Wisconsin, and also reported as doing considerable damage in Oregon.

A very interesting report was received from Mr. R. R. McLean, through Mr. T. D. Urbahns to the effect that Scaptomyza terminalis Loew (Drosophila terminalis Loew) has destroyed 20 carloads of cauliflower in San Diego County, California. This species has never previously been recorded as a serious pest. The only records we have are: "on radish leaves", Berkeley, Calif., White Mountains, N. H., Mesilla Park, New Mexico, and Sitka, Alaska.

In the western half of the cotton belt there is little likelihood of more than local damage by the boll weevil unless reasonably rainy weather prevails during the next 30 days or more. The cotton aphid is reported as generally prevalent over the cotton belt extending from Tennessee and Illinois southwestward over Texas.

A rather serious outbreak of one of the tiger moths, Apantesis oithono Stkr., is reported from eastern and southern Mississippi, and the beet armyworm is very seriously damaging the cotton in south-central California.

Tobacco has been seriously injured by cutworms and webworms in the southern tobacco belt and the worst outbreak of the eastern field wireworm ever recorded in the shade-growing tobacco section of the Connecticut Valley is reported this year. In this latter region crane flies are also seriously infesting the tobacco.

An undetermined species of Trichobaris is reported as attacking tobacco in Arizona and New Mexico.

The lime tree spanworm is generally prevalent and in places seriously numerous in the forest areas of New England and New York State.

We have failed to confirm the occurrence of Brood XXIV of the periodical cicada in the southern Mississippi Valley and Brood XVI in Nebraska.

A leaf beetle, belonging to the Colaspis brunnea complex, is defoliating pine over a very considerable area in Mississippi and Louisiana, the Louisiana infestation extending over 15 miles.

The sticktight flea infestation was greater in southwestern Texas this spring than it has been for many years and the losses in egg production and young chickens were very heavy.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR JUNE, 1925

The most striking entomological feature in Canada for June is the great prevalence of cutworms of various species in almost every province of the Dominion, particularly in the Prairie Provinces.

In the Prairie Provinces extensive areas are infested; the red-backed cutworm being the principal species in Manitoba and Saskatchewan and the pale western cutworm in Alberta. Although the infestation in Manitoba is widespread, severe damage is largely localized, but in Saskatchewan the worst damage is occurring over a broad belt of country extending from North Battleford and Prince Albert in the north to Regina and Yorkton in the south. The area most affected in Alberta is situated northeast of Calgary, centering on Morrin and Drumheller, where much of the grain crops have been destroyed.

Cutworms are also reported doing extensive injury to many kinds of field and garden crops at points in the Maritime Provinces, southern Ontario, and British Columbia.

Wireworms, principally Ludius aereipennis Kirby and, to a lesser extent, Cryptohypnus nocturnus Esch., have caused widespread injury to seed and young plants in southern Saskatchewan. Reports of severe damage by wireworms have been received also from the Treesbank district, Manitoba, and from the New Dayton and Foremost districts, Alberta.

The rose chafer is very abundant and destructive in several of the sandy sections of southern Ontario.

Cankerworms have caused defoliation in many neglected apple orchards in Welland, Lincoln, Wentworth, and Brant Counties, Ontario. They have been troublesome also in orchards of the Annapolis Valley, N. S., and in the wooded country at Gatineau Point, Que.

The tent caterpillar outbreak in southern Saskatchewan has been as severe as in 1924, despite the high percentage of mortality due to parasitism and disease last year. Tent caterpillars have been complained of as troublesome in orchards of the Lower Fraser Valley, B. C., and in the Lemmingford district, Quebec. Very little trouble has been experienced this year in the Maritime Provinces.

The larch case bearer is abundant on larch throughout New Brunswick and is severely defoliating tamaracks throughout the Annapolis Valley, N. S.

The oak and hickory plant bugs, Lygus quercalba Kngt. and L. caryae Kngt. are again abundant and injurious in many peach orchards in the Niagara district, Ontario.

MEMORAL FEEDERS

GRASSHOPPERS (Acridiidae and Locustidae)

Florida — F. S. Chamberlin (June 19): Grasshopper attacks, although rather severe early in the tobacco-growing season, have now ceased. The species most common at Quincy this season were Melanoplus atlanis Riley, Melanoplus propinquus McNeill, Chortophaga viridifasciata DeGeer, Dissosteira carolina L., and Orenulella pelidna Burm.

Missouri — L. Haseman (June 25): As yet no complaints of real grasshopper damage have begun to come into the office, but from field observations grasshoppers are quite abundant throughout different sections of the State and if later in the season unusually dry weather should develop, we shall probably have a considerable number of complaints.

Nebraska — M. H. Swenk (May 25-June 25): The first reports of trouble with grasshoppers in this State were received June 19 from Dawes County.

Mississippi

R. W. Harned (June 22): Reports regarding grasshopper injury are received from scattering localities throughout the State. Melanoplus atlanis and Trimerotropis citrina Scudd. are the species most in evidence. J. A. McLemore reported these insects as having seriously injured peaches in Pearl River County during May. Early in June the same species were reported as ruining garden crops in Neshoba County.

Kansas

J. W. McColloch (June 21): Grasshoppers are beginning to make their appearance in several sections of the State, as shown by reports coming to this office.

Texas

W. A. Baker (May 25): The farmers have been given temporary relief, at least, as a result of the rains bringing on a large amount of native vegetation. The intensity of the infestation in proportion to the amount of available food has been materially reduced.

One farm that was planted to 25 acres each of corn and cotton was completely covered and surrounded with water during the recent rains for a distance of two miles, except for high places and levees. All except about an acre of cotton was completely eaten up before the rains and the corn was rapidly suffering the same fate after the rains. The hoppers concentrated on the high points during the overflow and had immediately returned to the field after the water had subsided.

H.S. Adair (May 28): Grasshoppers are becoming quite noticeable in the Brownwood section. Their presence in alfalfa and grass fields in destructive numbers is very evident although little damage has been done to date. The appearance of grasshoppers in large numbers is somewhat later this year than usual, probably owing to the lack of rain earlier in the season.

South Dakota

H. C. Severin (June 25): Grasshoppers are less numerous with us this year than they have been for 15 years. We expect no trouble from them in South Dakota.

Montana

Stewart Lockwood (May 20): The Mormon crickets are fairly well scattered over the two northwestern counties. They are not quite as numerous as they have been the last two years. I did not see as many bands nor were they as large in the territory covered as I had expected to find. They are now in the third, fourth, and fifth instars and are spending considerable time traveling. Very few of these bands were anywhere near cultivated crops, though some of them were within easy range of the few isolated farms I saw. For the most part, however, they promised to do more damage by far to the range grasses than to field crops.

There is no doubt in my mind that considerable damage will accrue to the farmers and that many more, because of the fear of the crickets in the crop, will live on the farms and attempt to make their living in the oil fields and other places. The country is mountainous, quite broken, and in a considerable part of the area cropped the soil is such that the ultimate success of farming small crops is very problematical.

(June 8): The numbers of Melanoplus atlanis in Montana are not as large as last year. Considerable damage is being done by this insect in the dry-farming regions of Stillwater County. Melanoplus bivittatus Say, now ranging from the first to the fifth nymphal instar, numbers from 10 to 50 to the square yard in many rather restricted localities in the irrigated valley of the Stillwater River. This also applies to Camnula pellucida Scudd.

Colorado, Utah, Montana, Wyoming.

Stewart Lockwood (June 8): The Mormon cricket, Anabrus simplex Hald., has been observed in very large numbers in the Uintah Basin in Utah and in Moffat and Rio Blanco Counties, Colorado. The area infested seems to be of the same size as for the last three years and the number of crickets about the same. The same species has been reported to this office as present in more or less destructive numbers in Sanders County, Montana, and in Fremont and Hot Springs Counties, Wyoming, and is proving to be a serious pest in Washakie County, where it is reported by the county agent to be in much larger numbers than it has ever been observed. Some of the crops have been lost.

WHITE GRUBS (Phyllophaga spp.)

Maine

E. M. Patch (May 25): Several nearly grown larvae were sent from Caribou with the report, "We found them first last fall in our orchard, where they had completely undermined the sod and at the ends of the potato rows adjoining had eaten deep holes into the potatoes. This spring, when plowing, found many of them."

Massachusetts

A. I. Bourne (May 26): We noted the first June bugs at Amherst flying about the night of May 10, somewhat earlier than was the case last year.

Pennsylvania

T. L. Guyton (May 29): June beetles are coming to lights in great numbers in the vicinity of Harrisburg, probably marking the appearance of the brood. (June 8): I am sending specimens of June beetles, Phyllophaga inversa Horn, which are coming to lights in great numbers in the vicinity of Harrisburg, probably marking the appearance of the brood.

Ohio

F. C. Bishopp (May 27): May beetles have been present in numbers around lights and on trees at Columbus during warm nights since May 10.

Indiana

J. J. Davis (June 24): More injury, especially to corn, than was anticipated from third-year grubs. This was no doubt largely due to weather conditions.

Wisconsin

E. L. Chambers (June 10): Many strawberry growers are complaining of white grubs but they do not seem to be any more serious than last season.

Minnesota — C. E. Mickel (June 13): There is a rather serious outbreak of white grubs in the southwestern corner of the State, principally in Rock County. The county agent estimates that there are about 3,000 acres infested, but the area may be larger than this. The grubs also did considerable damage last year and are very plentiful in the same fields this year.

Nebraska — M. H. Swenk (May 1-25): Complaints of white grubs destroying lawns and working in gardens in southeastern Nebraska continued to be received during May. The flights of May beetles, however, have been very light this spring.

Kansas — J. W. McColloch (June 6): At Wellington the adults of Phyllophaga lanceolata Say are appearing in countless thousands in the fields, while in Gray County last week I found the beetles abundant in wheat fields near Copeland. (June 21): The adults are appearing in countless thousands in the wheat fields according to reports from the Sumner County farm adviser.

Texas — F. L. Thomas (May 21): A correspondent from Ralls writes that they have wingless May beetles, Phyllophaga cribrosa Lec., every year, but this year they seem to be worse than ever.

CUTWORMS (Noctuidae)

Maine and Massachusetts — J. V. Schaffner, Jr. (June 2): A great amount of damage is being done through eastern Massachusetts, especially in the small gardens. One report from Augusta, Me., stated that in one acre of strawberries 90 per cent were destroyed and another from Portland referred to them as quite abundant and feeding on small lettuce, carrots, and celery.

Massachusetts — A. I. Bourne (June 22): I find that cutworms are the outstanding pests in all sections of the State. One writer reported finding 29 to 30 cutworms in the soil close to an injured tomato plant. Tobacco growers have been unusually hard hit this season where the combination of cutworms and, to a somewhat lesser extent, wireworms has meant resetting large areas of their fields. In some cases resetting has had to be done two or three times.

Prof. Koon has reported that for the market-garden region around Boston practically all vegetables have been injured more or less. He states that the present year's infestation is the worst he has ever observed and in some cases he has estimated damage to the crop up to 50 per cent.

Connecticut — W. E. Britton (June 24): An unusual amount of injury by cutworms to all vegetable crops all over the State. They are apparently more abundant than in the average year.

Rhode Island — A. E. Stene (June 20): Cutworms were abundant in a few places earlier in the season.

New York — R. G. Palmer (June 13): Very abundant in the muck areas of Orleans County.

Ohio — H. A. Gossard (June 23): One of the Hadena stalk borers, probably fractilinea Zell., was received from Akron June 17, where it was said to be doing considerable damage attacking corn.

Indiana — J. J. Davis (June 24): Reports of injury to various crops, particularly to corn, were received from many sections of the State prior to June 2. No reports have been received since that date.

Wisconsin — E. L. Chambers (June 10): Several complaints have been received from sufferers from cutworms and a few specimens have been received from the southern part of the State.

J. E. Dudley, Jr. (June 15): There has been an unusual outbreak of cutworms, probably of several species, through the latter part of May and first of June attacking general crops in the southern part of the State. Many complaints have come in from farmers.

Minnesota — R. E. Wall (June 13): Many reports have been received concerning cutworm outbreaks. They seem to be more numerous than they have been for the last few years. At this date many of them are already changed to the pupal stage.

South Dakota — H. C. Severin (June 1): Cutworms of several species were exceedingly abundant over South Dakota this spring. The damage done was severe.

Nebraska — M. H. Swenk (May 1-25): In spite of the cool, backward character of most of the month of May, only a few reports of injury by cutworms in cornfields were received, though there was a normal amount of complaint of their injuries in gardens. (May 25-June 25): Immediately following May 25 reports began coming in numerously. The period of heaviest injury was May 27 to June 9, and although more or less cutting of corn took place over practically the whole of the State injury was especially severe in the cornfields of the sandhill region, where the dark-sided cutworm, Euxoa messoria Harr., was apparently the principal offender.

Kansas — J. W. McColloch (June 21): Cutworms caused a heavy loss to corn in Jewell, Riley, Pottawatomie, Greenwood, and Lincoln Counties. It was necessary in many cases to replant whole fields.

Mississippi — R. W. Harned (June 22): From the southern and western parts of the State many complaints have been received in regard to cutworm injury to various crops.

On June 15 a report was received from Holmes County that in an 8-acre field of cotton there were 2 acres where 90 per cent of the cotton had been cut down by cutworms. The specimens received from this place were determined by H. W. Allen as mostly the shagreened cutworm, Feltia malefida Guen., with a few specimens of the granulated cutworm, Feltia annexa Treit.

On April 28 J. A. McLemore reported cutworms doing serious damage in and near Picayune to sweet-potato plants, corn, cotton, and all kinds of garden and truck crops.

On May 12 H. W. Knight, of Collins, reported that one man collected 4,000 cutworms on a 4-acre field of cotton and that about half of a 15-acre field belonging to another man had been destroyed by them. The worms received were determined by H. W. Allen as Feltia annexa.

On June 15 N. D. Peets, of Laurel, sent in a large number of cutworms with the statement, "These cutworms are doing considerable damage to soybeans. I found from 1 to 7 cutworms in most of the hills examined. These were determined by H. W. Allen as mostly the granulated cutworm, Feltia annexa, with some of the shagreened cutworm, Feltia malefida, among them.

Oregon

Don C. Mote (April 22): The county agent of Baker County reports gray cutworm doing serious damage to alfalfa on one ranch. The worms are present in all sizes. This cutworm did heavy damage 15 years ago, feeding up till the middle of June according to growers.

BRONZED CUTWORM (Nephelodes minians Guen.)

Ohio

Herbert Osborn (May 28): During the last week or two we have had numerous reports in pasture and meadow lands of cutworms, or, as they have sometimes been termed, "armyworms." In two cases where specimens have been submitted, these have proved to be the bronze cutworm, Nephelodes minians.

H. A. Gossard (June 23): The bronze cutworm has, of course, ceased damage in central Ohio. We estimated that from 4,000 to 6,000 acres of pasture in Licking County and surrounding counties were completely devoured by this insect. Since a polyhedral disease was present among them, we are not expecting any heavy brood of moths this summer and fall.

PALE WESTERN CUTWORM (Porosagrotis orthogonia Morr.)

North Dakota

C. N. Ainslie (June 18): One of the interesting facts connected with the temporary (?) subsidence of the pale western cutworm in western North Dakota is the almost total disappearance of Calosoma adults in the wheat fields of that region. These predacious beetles multiplied during the recent cutworm outbreak and were common in most fields, while their larvae attacked the cutworms underground. At present they are very rarely seen.

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Nebraska

M. H. Swenk (May 1-25): Heavy flights of the moth of the army cutworm began to be reported from southwestern Nebraska during the week of May 18 to 23 and the moths are also appearing abundantly as far to the eastward as Lancaster County.

braska and oming — M. H. Swenk (May 25-June 25): Heavy flights of the moth of the army cutworm continued through western Nebraska until the end of May, when they abruptly ceased. From eastern Wyoming, however, a report of great flights of these moths as late as June 8 was received.

nsas — J. W. McColloch (June 21): The adults have been very abundant over the State during the last of May and the first two weeks of June.

BLACK-LINED CUTWORM (Agrotis fennica Tausch.)

ine — E. M. Patch (June 1): Last-instar larvae. County agent at Hope reports, "They eat one row of peas and then move on to the next." (June 9): County agent at Portland writes, "This caterpillar has been raising havoc with the Cape farmers, eating beets, cauliflower, cabbage, and peas. They strip an acre of cabbage in one night."

w York — F. B. Morris (May 21): Specimens were received from Oswego. They destroyed a whole field of lettuce and part of a bed of spinach.

chigan — R. H. Pettit (May 26): The county agent at Ewen writes as follows: "I found the worms present over an area 10 or 12 miles long and 5 or 6 miles wide. Wherever the second-growth timber had not been killed by the fire, we found very few worms, but where the fire had killed nearly all vegetative growth and last year only fireweed was growing, the worms were very thick." He believes there is some relation between fireweed and these cutworms. He says further: "The worms have crawled off the cut-over land onto the first row of farms next to the cut-over land. When they first hit a farm they eat nearly everything in sight but are especially fond of clover, strawberry plants, dandelions, and garden crops. Plants which produce a blade, rather than a true leaf, do not seem to be much attacked."

"One farmer tried spraying his strawberry plants with the same arsenical material he used on his potato vines last year. He received about 95 per cent protection."

WIREWORMS (Elateridae)

ssachusetts — A. I. Bourne (June 22): I have received one report from a fruit grower of northern Worcester County who is cooperating with the Station on some of our projects, that he has observed click beetles on young trees, apparently gouging out the buds. While this has not yet assumed alarming proportions, in a few cases small trees were very seriously injured.

diana — J. J. Davis (June 24): Injury to corn in bottom lands was reported May 21 at Orestes.

Nebraska — M. H. Swenk (May 25-June 25): From Knox County we have a report of heavy injury to the young corn plants in a field on heavy soil by the wireworm Melanotus fissilis Say. Wireworms of an unidentified species were reported destroying celery plants in Lincoln County. These reports were received during the second and third weeks in June.

Minnesota — A. G. Ruggles (June 13): Wireworms have been reported from a number of localities, but we have been unable to study the problem and hence do not know the species.

Louisiana — T. E. Holloway (May 25): At the plantation near Morgan City where wireworms were seriously injuring sugarcane last year, scarcely a wireworm is now to be found. It is evident that they have transformed to adults, some cast skins having been found in the soil and a few click beetles collected.

WHEAT WIREWORM (Agriotes mancus Say)

New York — P. J. Chapman (May 31): Practically an entire field of sprouting corn was destroyed at Skeneateles.

EASTERN FIELD WIREWORM (Limonius agonus Say)

Connecticut — W. E. Britton (June 3): I write to report a serious situation in the tobacco fields of this State where much injury is being caused by wireworms. In my experience of 31 years in the State, I have never known anything so extensive. We visited one plantation yesterday where 84 acres of tobacco are grown under cloth. About 50 acres of this has been ruined by wireworms and some of it has been reset twice. The wireworms are now injuring the third set of plants. Most of this land has been in tobacco for many years, though occasionally it is seeded and allowed to be in sod for two or three years. Some of it at least has had a cover crop of timothy during the winter, the grass being plowed under in the spring.

We have reports of 10 or a dozen growers where considerable injury has been caused, but the one mentioned is perhaps the worst case. Altogether, thousands of dollars damage has resulted. We expec to carry out some experiments with carbon-disulfide emulsion and with cyanide. (See also under tobacco.)

A BUG (Galgupha sp.)

Mississippi — R. W. Harned (June 22): A correspondent at Carlisle, in Claiborne County, sent in specimens on May 22 with the statement, "They are coming out of my neighbor's meadow by the millions for a distance of several hundred yards, and have been crossing the road for several days. We can not see that they are destroying anything yet." Specimens were determined by W. L. McAtee as Galgupha sp., all nymphs.

CEREAL AND FORAGE-CROP INSECTS

WHEAT

CHINCH BUG (Blissus leucopterus Say)

linois

W. P. Flint (June 18): Less than one-fourth of an inch of rain fell during May in most of the central and south-central Illinois Counties. The rainfall was also light during the first week in June, giving ideal conditions for the chinch bug to multiply in the area where it was nearly cleaned out last year. A few fields in the south-central counties in this State now show a moderately heavy infestation by chinch bugs. If the weather continues dry for the remainder of the summer, the insect will undoubtedly increase to a point where it will again be a serious menace.

ssouri

L. Haseman (June 25): In spite of the scarcity of the bugs last year and the severity of the winter, chinch bugs are causing some damage in scattered localities, particularly in the territory south of the Missouri River and west of Central Missouri. Their migration at this time from wheat to corn is on.

kansas

Dwight Isely (June 20): During the past week there has been considerable complaint of chinch bug injury to corn and sorghum in northwestern Arkansas.

W. J. Baerg (June 25): Chinch bug injury reported from Crittenden, Craighead, and Carroll Counties. This is the first important outbreak since 1914. Injury is severe over small areas.

ssissippi

R. W. Harned (June 22): Chinch bugs are causing more damage in this State than at any time during the last 18 years. During 1910 many complaints were received in regard to chinch bugs, but they were not as serious then as now. They are most serious in the Yazoo-Mississippi Delta section of the State, but some complaints have been received from all parts of Mississippi. Corn is the chief crop that is being injured.

uisiana

W. E. Hinds (June 15): I wish to report that the chinch bug is appearing ar und Baton Rouge this season in unusual numbers and is causing some damage to cane and corn particularly. I have a complaint of the pest also from Winneboro, where they attack oats and then move to sorghum and cane.

uth Dakota

H. C. Severin (June 25): The chinch bug outbreak that struck South Dakota a few years ago has abated. We do not expect any trouble from chinch bugs this year.

Nebraska — M. H. Swenk (May 25-June 25): The dry weather of the month of May gave a great impetus to the already serious aspect of the infestation of our wheat and other small grains by chinch bugs, and they increased alarmingly in the infested area outlined in my report of May 25. They also become menacingly abundant in many fields northward through Lancaster County into southern Saunders County, and over a larger portion of western Otoe County than we had outlined on May 25. Heavy, beating rains in early June enormously reduced the numbers of the bugs over a considerable portion of the infested area. For example, in some fields in eastern and southern Johnson County, on June 19, the bugs were found to have been reduced 50 per cent or more as compared with their abundance in the same field ten days earlier. The bugs began moving in Lancaster and Saunders Counties on June 20 and during the last five days numerous reports of heavy migrations and losses of corn have been received. In spite of the heavy mortality among the bugs in many localities during early June, because of the beating rains, there will undoubtedly be heavy losses in many fields throughout the infested area.

Kansas — J. W. McColloch (June 21): Harvest has been early this year and the migration to the corn and sorghum fields has been on since June 5. The first adults of the new brood are now beginning to appear. It is difficult to estimate the damage to wheat by this insect. In some cases parts of fields have been killed. There will also be much shriveled grain. Many farmers are using barrier this year.

HESSIAN FLY (Phytophaga destructor Say)

Indiana — J. J. Davis (June 24): No counts have been made but reports and observations of fallen wheat indicate abundance of the Hessian fly from the fall brood.

Illinois — W. P. Flint (June 18): Later examinations by S. C. Chandler, covering a wider range of the southern Illinois counties, have shown this insect to be of little importance this spring in the Counties of Washington and Clinton. In the central and north-central parts of the State the infestation runs about as reported in the last number of the Survey. The weather has remained so dry that there was no indication of a supplementary spring generation. Wheat cutting is now in progress and it seems evident that there will be only the main generation during the present spring.

Nebraska — M. H. Swenk (May 25-June 25): The puparia of the main (or first) spring brood of the Hessian fly that were formed during the last half of May did not give forth as heavy a supplementary (or second) spring brood as it was feared they might produce at the time of my last report on May 25. Probably 30 to 40 per cent of these puparia gave forth their flies during June, mostly in fields that had been already badly damaged or ruined by the maggots of the main (or first) brood. As to the distribution of the injury, there is little to add to the statement made in my report of May 25 except that some

damage occurred in parts of southern Douglas, southeastern Saunders, and southern Gage Counties, where the county agents had secured but poor cooperation in their campaign to delay the sowing of the winter wheat until the announced safe date. Also the principal area of infestation, reported on May 25 as including western Clay, eastern Adams, and southeastern Hall Counties, later proved to extend west into western Kearney County and northeast to southern Merrick County.

sas

J. W. McColloch (June 21): A heavy infestation of the fly occurs over most of the wheat area of the State. A trip made over a large part of the wheat area on June 1 showed the infestation running from 10 to 50 per cent of the culms. At Manhattan 25 per cent of the straw went down before harvest.

th Dakota
Montana

C. N. Ainslie (June 16): The Hessian fly area in western North Dakota and eastern Montana has been gone over recently. The abnormal weather has played an important part in the control of this pest this spring. A few warm days in late April and early May permitted a moderate infestation of very early sown spring wheat. Since then cool days and abundant wind have largely prevented further oviposition. The fly can be found in practically every field in the semiarid region but a light attack is expected this season. A few early-sown fields have many plants injured by the fly but timely and abundant rains have enabled crippled plants to rally.

WHEAT STEM MAGGOT (Meromyza americana Fitch)

raska

M. H. Swenk (May 25-June 25): The wheat stem maggot has shown up in the wheat fields over about the eastern half of the State during the present month in sufficient abundance to do serious injury in some fields. From Chase County there has come a report under date of June 17 of the destruction of about 15 acres of wheat in a field of 115 acres by the western wheat-stem maggot, Pegomya cerealis Gillette.

MEADOW PLANT BUG (Miris dolobratus L.)

iana

C. R. Cleveland (May 29): This species was found in large numbers on wheat in band 20 to 30 feet wide. One edge of field which lies along pasture swale heavily grown to grass, which was not cut, eaten off or burned last fall. Severe drought has caused natural host (grass) to dry up and bugs have moved to more succulent wheat. Heads just formed and bugs are starting to feed on them.

CLOVER MITE (Bryobia praetiosa Koch)

raska

M. H. Swenk (May 1-25): From Cheyenne County was reported a wheat field in which the clover mite was swarming by the millions during the first week in May and causing the wheat to wither and dry out in spots through the field. This is our first report of the clover mite proving injurious in that way.

WHEAT STRAWWORM (Harmolita grandis Riley)

Kansas — J. W. McColloch (June 21): Wheat infested by this insect has been received from Great Bend, Hays, and Copeland. At Manhattan some fields have 10 per cent of the straw infested.

JOINTWORM (Harmolita tritici Fitch)

Missouri — L. Haseman (June 25): An unusually severe outbreak of jointworms seems to have appeared in the wheat this year. The heaviest infestations are in the territory comprising the southeastern quarter of the State.

GREAT PLAINS FALSE WIREWORM (Eleodes opaca Say)

Kansas — J. W. McColloch (June 6): Last week I covered most of western Kansas by auto. Adults of the false wireworms were everywhere abundant in the wheat fields; in fact, I never saw the beetles as abundant as they are this year.

WHEAT STEM MAGGOT (Oscinis spp.)

Missouri — L. Haseman (June 25): Several complaints during the middle of the month were received regarding the whitening of the heads of the wheat owing to the work of one of these little maggots. From the complaints the pest seems to be about normal in abundance.

CORN

CORN EARWORM (Heliothis obsoleta Fab.)

Georgia — O. I. Snapp (June 12): Unusually abundant at Fort Valley at the present time. Reports from Montezuma also indicate a heavy infestation there in sweet corn.

Mississippi — R. W. Harned (June 22): Heliothis obsoleta has been received from every section of the State. Most of the complaints have been in regard to it as the tomato fruitworm. Now more complaints are being received about it as the bollworm of cotton. A few complaints about it as a corn pest have also been received.

STALK BORER (Papaipema nitela Guen.)

Ohio — H. A. Gossard (June 23): The common stalk borer was received from Stockport, Portsmouth, Lisbon, Perrysville, Mansfield, and Alger. A large number of specimens from all over the State have been brought into my office, indicating that it is very generally distributed and very numerous over the entire State. In many cases considerable replanting will have to be done and perhaps in some cases substitute crops will be planted because of the great thinning out of the corn due to this pest.

Indiana — J. J. Davis (June 24): Unusually abundant this year. Definite reports with specimens have been received from the following Counties: Wabash, Wells, Blackford, Delaware, Warren, Hendricks, Shelb Union, Daviess, and Lawrence.

inois W. P. Flint (June 18): The common stalk borer is much more destructive than usual and a number of fields on bottom lands have been severely injured in some cases, necessitating the replanting of the entire field. This is unusual as the insect usually confines its attack to field margins or low points in the field where a heavy weed growth has been permitted the previous season.

souri L. Haseman (June 25): This insect is more abundant this year than it has been in a great many years and in some cornfields planted on newly plowed bottom pasture or waste land they have completely destroyed the first planting. From various sections of the State reports have been received showing damage to corn and vegetable crops.

raska M. H. Swenk (May 25-June 25): Complaints of injury by the stalk borer continued through June and upto the date of this report. Some cornfields apparently have been quite seriously damaged. The injury has been confined to the eastern one-third of the State.

ARMYWORM (Cirphis unipuncta Haw.)

York H. C. Huckett (June 13): Found feeding in noticeable numbers in a hay field at Calverton.

E. P. Felt (June 26): Armyworms are reported as very abundant in grass and grain fields in Orient, by L. H. Latham.

o H. A. Gossard (June 23): Armyworm specimens were received June 17 from Akron, where they were doing damage to corn.

iana J. J. Davis (June 24): Abundant June 12 at Marion.

inois W. P. Flint (June 18): Only a few scattered cases of injury by first-generation larvae have been reported.

SOD WEBWORMS (Crambus sp.)

o Herbert Osborn (May 28): I have had reports of work in cornfields planted on sod ground which is very evidently due to one of the sod webworms, but specimens have not been received for identification.

H. A. Gossard (June 23): Sod webworms were received from Irwin, Celina, and Columbiana, in all cases attacking corn. One of my assistants, in reporting an investigation of webworm damage in northwestern Ohio, says that this damage did not occur in fields that had been in grass the preceding year. One field consisting of 30 acres now in corn was in corn last year. The field was kept very clean of plant and weedy growth of every kind last year and there was no weedy growth during the fall after the corn crop was removed, yet out of 100 consecutive hills examined in this field 94 showed injury by webworms. The damage to the field was estimated at about 70 per cent. This field ordinarily passes through a 4-year rotation, consisting of corn, oats, wheat, and clover, but this year corn followed corn. Another 30-acre field adjoining this was in clover last year and this year was

put to corn. This field has an almost perfect stand of corn that is growing very nicely. Only occasionally can a stalk be found showing injury. Another field was last year in barley, with which sweet clover had been sowed. This field was plowed up in April. The loss from sod webworm injury is at least 50 per cent and under date of June 19 these crambid larvae were feeding on the replant, which was just coming up. A considerable number of fields, some of them 50 acres or more, within a radius of 20 or 30 miles of Toledo, have been completely destroyed by sod webworms and must either be replanted to corn or to other crops.

T. H. Parks (June 17): Specimens with reports of severe damage have been coming in from many sections of the State.

BILLBUGS (Calendra spp.)

Mississippi — R. W. Harned (June 22): On June 13 a farmer at Oak Ridge, Warren County, sent several specimens of Calendra with the statement that they had caused a lot of trouble in corn in the northeastern part of that county.

Missouri — L. Haseman (June 25): Two species of billbugs, Calendra callosa Oliv. and C. destructor Chttn., have been reported as seriously damaging bottom corn from a number of widely separated sections of the State. It is appearing mostly on corn where wild grasses and sedges were abundant last year. Identified by Satterthwait.

MAIZE BILLBUG (Calendra maidis Chttn.)

Kansas — J. W. McColloch (June 21): At Hunnewell a 60-acre field of corn was destroyed. A report from McPherson County says the beetles have destroyed several acres of corn. A field at Ogden has been replanted three times owing to this beetle. A general infestation in a number of fields at Junction City has necessitated much replanting.

TWELVESPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Fab.)

Louisiana — W. E. Hinds (May 28): The 12-spotted cucumber beetle has been exceedingly abundant following a very mild winter and considerable damage has been done to stands of corn and other crops attacked by them.

BANDED FLEA-BEETLE (Systena taeniata Say)

Ohio — T. H. Parks (June 17): Isolated but serious injury is being done by these adults to growing corn over a large part of the State. Most complaints come from northwestern counties. The county agent of Shelby County writes, "There is a 20-acre field of corn that is so badly infested that the corn will be destroyed within a few days."

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Nebraska — M. H. Swenk (May 25-June 25): Injury in several cornfields in the vicinity of Loup City by the corn root aphid was encountered on June 10.

Kansas — J. W. McColloch (June 21): This insect has been received from Denison and Ogden with the information that it is causing considerable loss to corn.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Mississippi — R. W. Harned (June 22): The sugarcane beetle has been received from many parts of the State. They have been reported chiefly as injurious to corn but a few complaints about their attacks on sugarcane have been received.

A FALSE CHINCH BUG (Nyzius sp., probably ericae Schill.)

Mississippi — R. W. Harned (June 22): Nysius sp. (probably ericae) was reported as causing serious injury to corn in Claiborne County on June 5. A correspondent who sent specimens wrote, "They are in a field of corn, planted on May 10, by the millions. They cover the stalks and blades and suck the life from them. They leave millions of little black specks on the blades that must be eggs." These insects were determined by Dr. H. H. Knight, of Iowa State College, as belonging to the genus Nysius, probably ericae.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Kalt.)

Wisconsin — J. E. Dudley, Jr. (June 7): Infestation is extremely scarce at Columbus, some fields showing none per five sweeps of a net, others three to five per five sweeps. Much less abundant than last year at this time and in the ordinary year. An early and severe infestation occurred in certain parts of Jefferson County but was exterminated by parasites. Both adults and larvae of cocinellids are conspicuous in fields but food is extremely scarce. Syrphids are scarce.

Nebraska — M. H. Swenk (May 1-25): In Dawson County about the middle of May several fields of alfalfa were reported as having been badly injured by the pea aphid. A great abundance of the ladybirds Hippodamia convergens Guer. and Megilla fuscilabris Muls. helped to bring this outbreak under control, and similar reports were not received from elsewhere in the State.

ALFALFA LOOPER (Autographa californica Speyer)

Washington — E. J. Newcomer (June 13): Report of horticultural inspector at Linville states, "We have one field of alfalfa of which the first cutting has been taken off before these worms got started, but the worms are keeping the second growth eaten to the ground and not giving it a chance to grow." (June 16): Working primarily in alfalfa and when this is cut it migrates and attacks lettuce, beans, potatoes, and corn.

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Oregon — B. G. Thompson (May 20): At Ontario, Malheur County, adults emerged and started laying eggs. Later cold weather checked egg laying and development. From one-half to full-grown larvae and numerous eggs were present on this date.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Delaware — C. O. Houghton (May 5): Quite common in northern Delaware this year. A 20-acre field of clover near Newport was so badly damaged that we advised plowing under the crop.

Wisconsin — J. E. Dudley, Jr. (June 7): Infestation is much heavier than the last two years and probably heavier than in the normal year. Swept from 1½ acres of alfalfa with aphidozer 3,000 larvae and 350 pentatomids of three species apparently preying on weevil larvae. Possibility of severe damage before first crop is cut.

A NEMATODE (Cephalobus elongatus DeMan.)

Nebraska — M. H. Swenk (May 1-25): Two reports of injury by the nematode Cephalobus elongatus to alfalfa plants were received during May.

CLOVER BUD WEEVIL (Phytonomus nigrirostris Fab.)

Illinois — W. P. Flint (June 18): Examinations by J. H. Bigger show that in many fields in western Illinois this insect destroyed from 25 to nearly 50 per cent of the clover heads. The same condition holds for all points in central and south-central Illinois where examinations have been made. The insect is now largely in the adult stage.

CLOVER APHID (Anuraphis bakeri Cowan)

Arkansas — A. J. Ackerman (June 4): The county agent of Benton County reports clover fields throughout the county badly injured, presumably by the clover aphid. Some fields almost entirely killed on this date.

SOYBEANS AND COWPEAS

CLOVER ROOT CURCULIO (*Sitona hispidulus* Fab.)

Indiana — J. J. Davis (June 24): Adults reported damaging soybeans at Frankfort June 17. Because of the fact that much clover sod was in bad shape this spring, many fields were plowed under and planted to soybeans. This very likely will result in considerable damage to soybeans by Sitones.

Illinois — W. P. Flint (June 18): Adults of the clover sitona, in most cases *Sitones hispidulus*, have been reported from a number of localities causing injury to soybeans where soybeans have been planted on spring-plowed clover sod.

BLISTER BEETLES (Meloidae)

Louisiana — W. E. Hinds (May 28): The blister beetles are now becoming abundant and attacking soybeans particularly.

GRASS

LEPIDOPTEROUS LARVA (*Pseudanaphora arcanella* Clem.)

Louisiana — Insect Pest Survey Bulletin, Vol. 5, No. 2, page 83, May 1 number, gives an account of a lepidopterous larva injuring lawns, pastures, and golf greens. This was reared by W. E. Haley and has been determined by Dr. Dyar as *Pseudanaphora arcanella* Clem.

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

APPLE

APHIDIDAE

Massachusetts — A. I. Bourne (May 26): Aphids have proven to be much less a pest than we were led to expect by conditions during the early season. Even in orchards where no particular attention was given to their control, they have very largely disappeared. The aphids hatched earlier than we have noted for several years so that the oil sprays found them very largely all hatched and clustered on the buds.

Rhode Island — A. E. Stene (June 20): Plant lice on fruit trees were abundant early in the season but cold weather and rains apparently suppressed them.

GREEN APPLE APHID (*Aphis pomi* DeG.)

New York — C. R. Crosby and assistants (June 6): At Honeoye Falls 2-year-old apple trees were attacked by this insect in sufficient numbers to warrant the application of control measures.

Ohio — H. A. Gossard (June 23): Aphis pomi was received on apple from Painesville June 2, also June 4, and from North Benton on June 10. By June 18 this species had migrated from apple trees at Wooster so that it was practically impossible to find further specimens.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York — C. R. Crosby and assistants (May 23): At this date in Ulster County practically all have migrated from apple.

Wisconsin — A. A. Granovsky (June 9): The common apple grain aphid was very abundant all over Door County on apples. Many orchardists went to a considerable expense in spraying with nicotine sulfate. Considerable curling of leaves was observed. At this time most of them have disappeared from apple foliage.

ROSY APPLE APHID (Anuraphis roseus Baker)

New York — C. R. Crosby and assistants: On May 23 colonies of this aphid were frequently found on Greening trees in Ontario County. Multiplication has been rapid, while in Ulster County on this date it did not seem to be multiplying to any great extent. In Dutchess County on May 23 this insect was increasing in numbers in many orchards. Up to this time it was thought that little injury would result from this pest. In Wayne County where nicotine sulfate was omitted from the delayed-dormant spray a moderate amount of curled leaves due to this insect was present, and in Onondaga County while scattering infestations were found in many orchards the damage up to June 6 is not serious. The aphids are quite abundant in several orchards where nicotine was left out of the delayed-dormant spray in Genesee County.

Ohio — H. A. Gossard (June 23): The rosy apple aphid was received June [illegible] from Bradford and June 10 from North Benton; in both cases on appl[illegible]

Oregon — Don C. Mote: Exceedingly heavy infestation in unsprayed orchards.

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts — A. I. Bourne (May 26): During the week beginning the 18th and running through the early part of the present week, throughout the main apple growing section of the State orchardists have been giving their whole attention to the application of the calyx or "petal-fall" spray. It may be interesting to note, as touching on the difference in altitude and climatic conditions existing in this State, that in the Nashoba district in northern Worcester County and western Middlesex, on the 20th of this month, we found conditions just right for the calyx spray. However, in the region around Gardner, Winchendon, and Athol on the 21st, we found apples in full bloom, a difference of more than four days betwee[illegible] those points.

Indiana — B. A. Porter (June 20): First-brood larvae began leaving the fruit June 9. During the period when the greatest numbers of moths were active the weather was very hot and dry, suggesting that we are likely to have a severe infestation of the codling moth this season. Observations in the orchards thus far have indicated the same thing.

Illinois — W. P. Flint (June 18): Second-brood codling moth will start emerging in southern Illinois about July 1. Present indications are that there will be a rather heavy second generation.

Missouri — L. Haseman (June 25): The codling moth in central Missouri arrived about on schedule time in spite of the fact that the season brought out the apple blossoms ten days to two weeks earlier than usual. The larvae of the first generation are now maturing and leaving the apples and we shall probably have the adults of the second generation emerging about on schedule time for central Missouri, namely, between the seventh and fifteenth of July.

Arkansas — A. J. Ackerman (June 1): A few wormy apples have been found in most orchards at Bentonville by June 1. The first brood hatched in large numbers earlier than usual, 30 per cent first-brood moths had appeared by May 1, and the earliest worms in fruit were found April 30. Some worms were leaving the fruit the last of May, and pupae were noted June 1. Some second-brood worms may be expected as early as June 20, about two weeks sooner than normal. Three cover sprays for the first brood have held the insect in check to date.

Oregon — B. G. Thompson (May 20): Adults emerging, about 10 per cent emerged to date. Apparently too cool for egg deposition.

ERMINE MOTH (Hyponomenta malinellus Zell.)

New York — P. M. Eastman (June 16): Inspection of about 3,000 apple seedlings imported from France last winter was made today and 24 ermine moth nests found. The larvae were very much alive, and could have caused considerable damage if not found in time.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

New York — C. R. Crosby and assistants: In Onondaga County, on May 23, injury from this pest was quite slight. By May 30 in Orleans County the pest was much more abundant, being found in considerable numbers where they have not caused any material damage before, and by June 6 they were numerous in one section of Genesee County.

Michigan — R. H. Pettit (June 16): The fruit tree leaf roller is gaining ground rather rapidly in Michigan.

Montana — J. R. Parker (May 20): The fruit tree leaf roller continues to be a serious pest in the Bitter Root Valley. Severe winter conditions which killed many varieties of apple and injured native pines failed to injure eggs of the leaf roller and there is a normal hatch.

PISTOL CASE BEARER (Coleophora malivorella Riley)

Massachusetts — A. I. Bourne (May 26): Pistol case bearers are present in average abundance.

New York — C. R. Crosby and assistants: In Monroe County this pest was much more abundant this year than last. In many orchards that were not sprayed prior to blossoming in Niagara County severe infestations have occurred, the first since 1909. Not only are the leaves severely mined but the larval work on the fruit is quite severe.

CIGAR CASE BEARER (Coleophora fletcherella Fernald)

New York — C. R. Crosby and assistants: In Monroe County this pest is much more abundant this year than last. It may be found quite frequently even in well-cared-for orchards, and is doing considerable damage in a number of poorly-cared-for orchards. In Onondaga County considerable damage was found in certain pear orchards, and in many orchards that were not sprayed prior to blossoming in Niagara County severe infestations have occurred, the first since 1909.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Massachusetts — A. I. Bourne (June 22): By June 15 I noted in some of the trees immediately outside the college planting that the apple and thorn skeletonizer larvae were beginning to pupate.

New York — C. R. Crosby and assistants: A trace of injury was noticed in one orchard in Dutchess County. Apparently this insect is of only minor importance; slight damage is found in Greene County especially where the calyx spray was omitted. By close examination in Columbia County evidences of the infestation can be found, but it is by no means an important problem this season.

CLIMBING CUTWORMS (Xylina spp.)

Ohio — H. A. Gossard (June 23): Climbing green cutworms were received from Johnstown June 20. The damage in the orchard was reported to be considerable.

RED BANDED LEAF ROLLER (Eulia velutinana Walk.)

Virginia — Virginia Crop Pest Commission (May 30): The spring brood of moths was unusually large in late March and early April at Winchester. The first brood of larvae are feeding on the foliage mostly, and are more abundant than has been observed at this time of the year during the last four seasons.

Indiana — B. A. Porter (June 20): This species is present in small numbers in most of the orchards in this section (Vincennes). In one orchard the injury has amounted already to 20 per cent of the fruit on the trees, although much of the injured fruit has since been removed in thinning. Where the apples were hanging in clusters

as many as 4 apples were ruined by the feeding of one worm. At present writing the first brood of worms has almost entirely disappeared, and the second is not yet in evidence. The worms seem to be rather heavily parasitized; five different species of parasites have been noticed.

TENT CATERPILLAR (Malacosoma americana Fab.)

ENERAL ATEMENT

J. V. Schaffner, Jr. (June 2): Hatching began in the vicinity of Boston about April 6. Reports received as follows: Medium to heavy infestations reported in many towns through eastern Massachusetts, also from Fitchburg, Colrain, and Deerfield; Ancram, Austerlitz, Chatham, Gallatin, and Pine Plains, N. Y.; Rupert and Pawlet, Vt.; Princeton, Piscataway, and Hillsboro Townships, N. J. General infestation with occasional reports of their being plentiful in the vicinity of Bucksport, Bath, and Manchester, Me.; Milford, N. H.; Cambridge and Hebron, N. Y., and Thetford and Barre, Vt.

ssachusetts

A. I. Bourne (June 22): The tent caterpillar in practically every section of the State proved, throughout the period of larval feeding, to be more abundant even than last year. This was particularly noticeable throughout the western half of the State. About the first of June, here at the College (Amherst), we began to find the larvae maturing and for the last week or ten days the larvae have been deserting the trees and seeking quarters for spinning their cocoons.

ode Island

A. E. Stene (June 20): We have had a little more than the average occurrence of the apple tent caterpillar.

laware

C. O. Houghton (May): This species is much less abundant at Newark than during the last two years.

st Virginia

F. E. Brooks (June 22): Tent caterpillars have been on the decrease in West Virginia for several years. Not a single tent has been observed in the central part of the State this spring.

w Mexico

J. R. Douglas (May 24): The tent caterpillars are more abundant over the Manzano Mountains at present than this time last season. Their tents are very noticeable on wild cherry and wild plum throughout the Manzano Range.

SPRING CANKERWORM (Paleacrita vernata Peck):

ine

E. M. Patch (June 8): Apple trees are reported defoliated in the town of Turner.

w York

C. R. Crosby and assistants: Considerable of a block of fruit trees were defoliated in Orange County, it being very serious in unsprayed orchards in Orleans County, while in Genesee County many neglected orchards are being defoliated. In Ontario County serious injury is occurring in some unsprayed orchards. In Monroe County this insect is doing considerable damage in a number of poorly-cared-for orchards.

New Jersey — J. V. Schaffner, Jr. (June 2): Reported as fairly abundant on various deciduous trees in Morristown.

Ohio — H. A. Gossard (June 23): Specimens of apple received from northeastern Ohio defoliated by cankerworms, I am unable to say whether the spring or fall species. Eggs of the fall species were received from Everett May 12 and from Willoughby May 15. The parties bringing in the defoliated branches reported that many orchards in northeastern Ohio had suffered in this manner. However, since this happens practically every spring in northeastern Ohio, I am not able to say at this time that conditions are any worse than in ordinary years.

Minnesota — A. G. Ruggles (June 13): The fall cankerworm has been as serious as ever in certain regions of the State. Instead of there being a marked decrease in these insects over a series of years they seem to have steadily held their own for the last five or six years.

LESSER APPLE WORM (Laspeyresia prunivora Walsh)

Arkansas — A. J. Ackerman (June 1): Several growers in the Springdale section report apples more severely infested with the lesser apple worm than with the codling moth by June 1. Specimens brought to the Bentonville Laboratory proved the pest actually to be the lesser apple worm. Although injury by this insect is occasionally noted every year, this is the first report of injury by the lesser apple worm in sprayed orchards of the Ozarks in recent years.

APPLE RED BUG (Heterocordylus malinus Reut.)

Massachusetts — A. I. Bourne (May 26): No complaints have come in to us of any abundance of the red bug, and in my personal observations thus far during the season I have found scarcely any evidence of its presence. It can not, therefore, be present in any abundance except possibly in some isolated and uncared-for orchards.

New York — C. R. Crosby and assistants: In Genesee and Wyoming Counties this insect is so numerous in several orchards that control measures had to be used, while in Ontario County evidence of their work has been found quite general, although up to May 23 no serious infestation has been observed.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Arkansas — A. J. Ackerman (June 5): The potato leafhopper is more numerous than last season. Some hopperburn has been noticed on potatoes and terminal growth of apple. Ordinarily this leafhopper does not cause much injury to potatoes here as only the first brood of nymphs attack the plants, potatoes being mature before the second brood appears. First-brood nymphs were present during the last three weeks of May and first-brood adults began to appear June 1.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

diana — J. J. Davis (June 24): Evidence of treehopper injury on young apple trees is not uncommon. The injury, according to our observations, always predominates in orchards where alfalfa has been grown or where the orchards were in weeds last fall.

OYSTER SHELL SCALE (Lepidosaphes ulmi L.)

ssachusetts — A. I. Bourne (June 22): The oyster shell scale was observed to be hatching here at Amherst from May 26 to 27 on apples and from May 31 to June 2 on lilacs.

SCURFY SCALE (Chionaspis furfura Fitch)

diana — J. J. Davis (June 24): There have been a number of reports of scurfy scale abundance on apple in south-central Indiana the past month. They have become more evident because of the abundant white male scales appearing early in June.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

io — H. A. Gossard (June 23): Apples damaged by the apple curculio were received from Albany June 10 and damaged apples were also received from Newark at about the same date. June 21 we received from Waterville specimens of peaches stung by the curculio and the damage was reported to be quite general in peach orchards of that section.

nsas — J. W. McColloch (June 21): Considerable damage by this insect is reported from Doniphan, Leavenworth, Atchison, and Wyandotte Counties.

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

assachusetts — A. I. Bourne (June 22): From all the reports that I have been able to secure on the European red mite, this is much less abundant than was the case last year and this condition is very general all over the State.

ew York — C. R. Crosby and assistants: In one or two orchards in Monroe County this pest has been found in large numbers attacking apple.

hio — H. A. Gossard (June 23): The European red spider mite was received from Willoughby June 6 on apple.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

ew York — C. R. Crosby and assistants: Moderate infestations have occurred in unsprayed orchards in Genesee County. Indications are that the psylla will become quite generally serious in Monroe County

with favorable conditions. In one or two orchards in Onondaga County a heavy infestation of this pest occurred. The second brood of psylla is coming on and indications are that it will become a serious problem in a number of poorly sprayed orchards in Columbia County, while in Yates County this insect is to be found in injurious numbers in several orchards.

PEAR MIDGE (Contarinia pyrivora Riley)

Massachusetts — A. I. Bourne (June 22): Several complaints. In one case some of the county workers estimated fully 50 per cent of the fruit to be infested. These complaints came in to us during the first half of the month. Clapp's Favorite and Beurre Bosc are the two varieties which have been reported as being infested the worst.

New York — C. R. Crosby and assistants: During the last week in May and the first week in June more or less serious infestations of pears by this insect were reported from Genesee, Columbia, and Dutchess Counties.

PEACH

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

West Virginia — Fred E. Brooks (June 22): Plum and peach crop in this locality (French Creek) a failure, but a slight amount of curculio injury has been done to apples.

NEW YORK WEEVIL (Ithycerus noveboracensis Forst.)

Ohio — H. A. Gossard (June 23): Ithycerus noveboracensis was received from Unionville Center June 2, where it was attacking both peach and apple.

GRASSHOPPERS (Acrididae)

Mississippi — Oliver I. Snapp (June 2): Grasshopper damage prevalent on peaches at Canton. Very dry weather has been experienced here for several months.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Mississippi — Oliver I. Snapp (June 2): A heavy infestation observed on several trees in a 27,000-tree orchard at Canton on this date. A 2 per cent lubricating-oil emulsion was used, but there were evidences that the emulsion had been used after freezing or in a tank containing lime-sulfur residue. Several peach trees at Madison were killed by using lubricating-oil emulsion in a spray tank containing lime-sulfur residue, which caused free oil to be liberated. Very poor scale control as a result. (June 3): Practically no San Jose scale found in commercial orchards at this point (Moselle). One commercial orchard of 10,000 trees which had been treated with 2 per cent lubricating-oil emulsion last winter was absolutely free of scale. This orchard had previously been lightly infested.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

orgia — Oliver I. Snapp and assistants (June 15): Third-generation larvae are now appearing both in the field and in the insectary at Fort Valley. There is a marked overlapping of generations. The infestation at this point covers only about the area infested a year ago which includes the town and the edges of several commercial peach orchards adjoining the city limits.

PEACH TWIG BORER (Anarsia lineatella Zell.)

egon — Don C. Mote (May 20): On unsprayed orchards severe damage in certain districts has occurred on prune and peach by the peach and prune twig miner.

alifornia — O. E. Bremner (May): Attacking particularly prunes and peaches in Sonoma County. Damages growth on nonbearing prune trees, severe damage being caused.

GREEN PEACH APHID (Myzus persicae Sulz.)

ew York — C. R. Crosby and assistants: During the last week in May and the first week in June this pest was found quite prevalent in Genesee, Ulster, Dutchess, and Columbia Counties.

PEACH BORER (Aegeria exitiosa Say)

linois — W. P. Flint (June 18): Larvae of the peach tree borer are unusually abundant in orchards not treated with paradichlorobenzene during the fall of 1924.

SHOT HOLE BORER (Scolytus rugulosus Ratz.)

ississippi — R. W. Harned (June 22): The fruit tree bark beetle has been received from many counties. Peach, plum, apple, and other fruit trees have been attacked. The extreme drought of the last 12 months has been very hard on trees of all kinds and this probably accounts for conditions being so favorable for these beetles.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

assachusetts — A. I. Bourne (June 22): The plum curculio appeared about ten days or two weeks earlier than was the case last year. At least preliminary indications are that this insect will not be quite as serious a pest as it was for the last several years.

hode Island — A. E. Stene (June 20): The plum curculio is also active as indicated by reports from various sections of the State.

ndiana — B. A. Porter (June 20): Began leaving the fruit at least as early as June 1 at Vincennes.

Georgia — Oliver I. Snapp (June 15): The curculio is under excellent control so far this season. Over 1,000 carloads of peaches have moved to market to date practically free of curculio larvae. First-generation adults are now emerging from the soil. Second-generation larvae are to be expected in the Elberta crop which will start to move about July 6.

Kentucky — B.A. Porter (June 20): The plum curculio has been unusually abundant in some orchards this season. The larvae had been maturing and leaving the fruit in peach orchards in western Kentucky a few days before the end of May.

Mississippi — Oliver I. Snapp (June 2-3): Commercial peach orchards at Canton and Moselle very free of curculio injury. Absence of the insect at these two places is attributed to the liquid spraying which had been done according to the schedule and to the very dry season.

CHERRY

FRUIT TREE LEAF BEETLE (Syneta albida Lec.)

Oregon — Mr. Wilcox: All adults disappeared on May 20. Injury apparent on leaves and fruit this date. Unsprayed cherries in certain districts show 60 per cent injury.

CHERRY LEAF BEETLE (Galerucella cavicollis Lec.)

Michigan — R. H. Pettit (June 6): The red cherry leaf beetle is appearing in the northern part of the State and is quite plentiful. This insect is abundant wherever pin cherry grows in quantity and the most of the commercially grown cherries are in cut-over and burned over districts in the north where pin cherry is very abundant.

DARK CHERRY FRUIT FLY (Rhagoletis fausta O. S.)

New York — C. R. Crosby and assistants: Large numbers of the flies were observed in Onondaga County. Control measures are being used by a number of growers.

BLACK CHERRY APHID (Myzus cerasi Fab.)

Delaware — C. O. Houghton (May 30): Some trees are very heavily infested at Newark this year, a large percentage of the leaves being practically covered on their under surfaces.

Ohio — E. W. Mendenhall (May 27): Sour cherry leaves badly infested wit the cherry plant lice, which are doing considerable damage.

Wisconsin — A. A. Granovsky (June 9): The black cherry aphis is present every year in extensive orchard areas of Door County, often causing a considerable injury. At this time we have the third generation of this pest with only slight injury. First and second generations are apterous, the third is developing wings. If weather conditions should be favorable for this insect, it may become serious by the end of the season.

RASPBERRY

RASPBERRY FRUIT WORM (Byturus unicolor Say)

w York — C. R. Crosby and assistants: Quite numerous this season in Ulster County.

io — H. A. Gossard (June 23): On June 8 we received from Kinsman Byturus unicolor attacking raspberry. Other reports unaccompanied by specimens from several quarters indicate that this insect is doing at least as much damage as usual, possibly more.

RASPBERRY SAWFLY (Monophadnoides rubi Harris)

ine — Edith M. Patch (June 18): These insects have started eating on the young shoots but are now on the bearing canes. They are in many gardens at Yarmouth.

RASPBERRY MAGGOT (Phorbia rubivora Coq.)

egon — Don C. Mote: Five shoots infested with the maggot received from Toledo, Oregon.

A SCARABAEID BEETLE (Serica sericea Ill.)

ine — Edith M. Patch (June 1): Three or four pairs per bush mating, feeding on leaves, of bushes at No. Bucksport.

GRAPE

EIGHT-SPOTTED FORESTER (Alypia octomaculata Fab.)

elaware — C. O. Houghton (May 29): About the usual number on grape at Newark. I find some of the larvae which have been killed by a fungus or bacterial disease.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

assachusetts — A. I. Bourne (June 22): The first specimens of the rose chafer made their appearance on June 7 and since that time have been swarming not only over roses and grape, but on a wide range of ornamentals, garden crops, and foliage of young fruit trees.

ew York — P. M. Eastman (June 16): Rose chafers are very numerous in the Pine Bush section of Albany, doing considerable damage to young apple trees.

elaware — C. O. Houghton (May 23): Just beginning to appear at Newark.

Virginia — Herbert Spencer (May 26): During the week of May 12 to 23 we have had several complaints of damage by the rose chafer. The reports came from the eastern shore district. Roses, grapes, and potatoes seem to be the plants most affected.

W. S. Abbott (June 3): First rose chafer seen on May 30 attacking rose.

West Virginia — Fred E. Brooks (June 22): Somewhat less abundant this season than for several years. Some complaint of injury to sweet cherries and early ripening sweet apples.

Ohio — H. A. Gossard (June 23): A great number of inquiries, unaccompanied by specimens, scattered all over northeastern Ohio have been received during the last month regarding this insect.

Michigan — R. H. Pettit (June 15): The rose chafers are also more numerous than usual this year.

Nebraska — M. H. Swenk (May 25-June 25): The rose chafer has been very numerous in the sandhill country from Loup County to Garden County and north into Cherry County May 28 to June 10. They not only attack roses, grapes, apples, raspberries, and other fruits, but there were several reports of heavy losses of poultry or fowls because of their having eaten these beetles.

GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

New York — C.R. Crosby and assistants: During the first week in June this insect was reported as unusually prevalent in the southeastern part of the State in Greene, Ulster, and Columbia Counties.

Delaware — C. O. Houghton (May 30): More common than usual at Newark, this year.

Ohio — H. A. Gossard (June 23): Received May 29 from Delaware, where it was doing damage to grapes.

GRAPE VINE APHID (Macrosiphum illinoisensis Shim.)

Missouri — L. Haseman (June 25): This species is now quite abundant on young grapes in central Missouri.

GRAPE LEAFHOPPER (Erythroneura comes Say)

Connecticut — B. H. Walden (June 5): At South Glastonbury this insect was attacking grapes. Adults abundant on foliage.

New York — C. R. Crosby and assistants: The adults are very numerous at the present time on plantings examined in Ulster County. A moderate infestation was found in Columbia County on June 6.

lifornia F. R. Brann (June 2): First generation now in various stages of nymphal development. Good results have been attained in their control with calcium cyanide dust in Tulare County.

GRAPE CURCULIO (Craponius inaequalis Say)

st Virginia Fred E. Brooks (June 22): A few beetles are present on grape vines, but so far less injury has occurred to the fruit than is usual at this season.

GRAPE ROOTWORM (Fidia viticida Walsh)

oraska M. H. Swenk (June 25): The first beetles of the grape rootworm were collected on the grape leaves on the College of Agriculture fruit farm near Union, Cass County, on June 10.

CURRANT

CURRANT APHID (Myzus ribis L.)

ine E. M. Patch (June 4): Specimens of damaged leaf received from Liberty attacking currants.

w York C. R. Crosby and assistants: This insect was attacking currant at Mineola. Specimens were received.

laware C. O. Houghton (May): Very abundant at Newark and causing serious injury despite the prevalence of large numbers of ladybird beetles.

io E. W. Mondenhall (May 27): Currants in this locality (Columbus) unusually bad with the currant aphid.

IMPORTED CURRANTWORM (Pteronidea ribesi Scop.)

ine J. V. Schaffner, Jr. (June 26): Pteronus ribesi reported as abundant in Bangor, Hampden, and Franklin on currant and gooseberry.

CRANBERRY

CRANBERRY WEEVIL (Anthonomus suturalis Lec.)

ssachusetts A. I. Bourne (June 22): Mr. Lacroix reports finding the cranberry weevil in about usual abundance. Neither late holding of winter flowage nor resanding has thus far shown any effect on the overwintering adults.

BLACK-HEADED FIREWORM (Rhopobota naevana Huebn.)

ssachusetts A. I. Bourne (June 22): Mr. Lacroix of our cranberry substation at Wareham, reports that the blackhead fireworm started hatching about May 10, which he stated was just about a week or ten days ahead of time. It apparently is somewhat less abundant than normally.

A LEAF BEETLE (Colaspis favosa Say)

Alabama — R. W. Harned (June 22): A letter from H. P. Loding, Mobile, Ala., reads as follows: "Colaspis favosa is doing considerable damage to blueberries; huckleberries, and Azalea indica also being defoliated."

PECAN AND OTHERNUT TREES

PECAN BUDWORM (Proteopteryx bolliana Sling.)

Mississippi — R. W. Harned (June 22): The pecan budworm has been received from Attala, Adams, and Washington Counties.

PHYLLOXERA

Mississippi — R. W. Harned (June 22): Complaints in regard to Phylloxera galls on pecans have been received from a number of places in the State, but chiefly from the western half. Determinations made by A. L. Hamner indicate that Phylloxera caryaecaulis Fitch is the most abundant species, especially in the Delta section of the State. Phylloxera carvae-ren Riley has also been received from the Delta. Phylloxera notabilis Perg. is the most common species on young seedlings. Phylloxera perniciosa Perg. was serious on one property. An undetermined species, probably not described, is most abundant in the eastern part of the State on seedling pecans.

FALL WEBWORM (Hyphantria cunea Drury)

Georgia — Oliver I. Snapp (June 17): Fall webworms were noticed for the first time this season on a pecan tree at Fort Valley today. This insect was noted last year for the first time on this date in middle Georgia. It is usually very common on pecan and persimmon.

A NUT WEEVIL (Balaninus algonquinus Casey)

West Virginia — Fred E. Brooks (June 22): Beetles of this species issued in May and are now abundant on the male catkins of chestnut. Indications are that there will be sufficient beetles to cause a wormy chestnut crop.

WALNUT CURCULIOS (Conotrachelus juglandis Lec. and C. retentus Say)

West Virginia — Fred E. Brooks (June 22): The above-mentioned curculios are attacking young nuts of the butternut and black walnut and causing a rather heavy drop.

CITRUS

RED SPIDER (Tetranychus citri McGregor)

California — A. E. Bottell (May 22): At Riverside this insect is attacking citrus, heavy damage being done.

GREEN APPLE APHID (Aphis pomi DeG.)

rida J. R. Watson (June 16): The green apple aphid (Aphis pomi DeG.), which has been extremely destructive in citrus groves for the last two springs, has been largely brought under control by fungi, chiefly Empusa, due to the advent of the rainy season. The damage to the citrus has been severe, covering practically the entire citrus belt, with the exception of the Satsuma belt in the north.

CITRUS THRIPS (Scirtothrips citri Moult.)

ifornia E. A. McGregor (May and June): This report records the progress made to date by the pest in the Lindsay-Porterville district. Owing to a warm period in March it appeared for awhile as if injury by the citrus thrips was to become severe during the 1925 season. Subsequent adverse conditions have greatly retarded development and increase with the results that at present the outlook is for a very mild occurrence and for a low percentage of injured fruits. Occasional groves are seen where scarring will occur. Attacking orange, lemon, grapefruit, pomegranate, grape, plum, and others.

PERSIMMON PSYLLID (Trioza diospyri Ashm.)

rida J. R. Watson (June 16): Trioza diospyri Ashm. has been more in evidence than usual this year.

MISCELLANEOUS FEEDERS

PAINTED LADY BUTTERFLY (Vanessa cardui L.)

Iceland — The Evening Star, Washington, D. C. (June 26): C. B. Williams, chief entomologist of the Egyptian Ministry of Agriculture has found that the "painted lady" butterfly has migrated ffom Africa to Iceland on a number of occasions. The distance is over 4,000 miles, and it is usually covered in three to four months. The butterflies show up in Iceland in July, leaving Africa and Asia Minor in April. Only the hardiest among the flyers succeed in making the immigration, however.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

New York — C. R. Crosby and assistant: This insect is apparently aiding, together with other agents, the destruction of potato seed pieces in Nassau County.

C. B. Raymond (June 12): A field of early beans was destroyed in Yates County.

Ohio — H. A. Gossard (June 23): The seed corn maggot was received June 8 from Elkton where it was damaging corn.

Wisconsin — E. L. Chambers (June 10): Specimens of Wardwells kidney wax beans were sent in by the Bayfield Canning Company, Bayfield, which were badly infested with Phorbia fusciceps Zett. They reported it as quite a serious loss to their contract fields.

Nebraska — M. H. Swenk (May 1-25): There was a little complaint of injury by Hylemyia fusciceps.

Montana — Stewart Lockwood (June 8): Larva is doing slight damage to young Great Northern bean seedlings.

Oregon — Don C. Mote: The seed corn maggot has appeared this season in destructive numbers in three corners of the State; northwest, northeast, and southeast. It has been attacking beans, wheat, barley, watermelon, cantaloupe, and cucumber seed and the young sprouted plants. Heaviest infestation was observed upon alfalfa sod land and land just recently cleared, although report comes from Lakeview, where the maggot is attacking grain, that the land was in grain last year. However, the soil here is an old lake bed, rich in organic matter - - this spring wet and cold and seed drilled rather deep. Apparently ideal conditions for maggot infestation.

BANDED FLEA BEETLE (Systena taeniata Say)

Ohio — H. A. Gossard (June 23): Systena taeniata was received fromm Ashland June 17 where it was killing fields off beans, corn, and

potatoes; from Huntsville June 17, attacking corn and potato; and June 18, from Elida, where it was attacking potato.

Indiana — J. J. Davis (June 24): Injury to eggplant by flea beetles (species unknown) was reported April 11 from New Point. Later, beginning May 21 and until June 15, reports of injuries, in all cases by S. taeniata, were received from Shoals on corn; Columbia City on all kinds of garden truck; Albion on potatoes; and Portland, Jay County, on corn. In Jay County the injury was reported as widespread and serious throughout the County on various crops but more especially corn. Injury this year seems to be especially severe in northeastern Indiana. In this section, especially last fall, weeds grew rank because of abundance of moisture.

GARDEN SPRINGTAIL (Sminthurus hortensis Fitch)

Massachusetts — A. I. Bourne (June 22): During late May and early June we noted large numbers of garden springtails present on practically all types of garden crops. The hot, dry weather which prevailed shortly after the first of June apparently caused a considerable reduction in their numbers so that by the 10th they had practically disappeared.

A SPRINGTAIL (Isotoma quadrioculata Tullberg)

Nebraska — M. H. Swenk (May 25-June 25): The Cass County agricultural agent sent a small bottle containing thousands of specimens of a collembolan identified as Isotoma quadrioculata Tullberg, which he said were found covering the ground nearly a quarter of an inch thick in a field after a heavy rain on June 7.

GARDEN SLUGS

California — O. E. Bremner (May): Never in the history of Sonoma County have we had slugs so numerous. They are attacking all garden crops and flowers, lawns, etc. The grasshopper formula using calcium arsenate is effective.

T. D. Urbahns (May 25): Garden slugs are very abundant throughout Sacramento on flowers and vegetables.

MYRIAPODS (symphilids)

Oregon — B. G. Thomson (May 20): Exceedingly abundant on all garden crops in certain localities in Corvallis.

CUTWORMS (Noctuidae)

SEE GENERAL FEEDERS

POTATO AND TOMATO

POTATO BEETLE (Leptinotarsa decemlineata Say)

Georgia — B. L. Boyden (June 8): Colorado potato beetle was doing some damage on a farm in Charlton County.

Iowa and North Dakota — C. N. Ainslie (June 11): After several years of comparative absence of this pest from around Sioux City, Ia., it has appeared in great numbers this spring and compels instant attention to insure the safety of the potato crop. Unusual numbers of adults were observed on the young potato plants in western North Dakota during a recent trip through that region.

Missouri — L. Haseman (June 25): Throughout the State generally this pest has not been so abundant as formerly though on untreated patches the pest is doing considerable damage.

APPLE LEAFHOPPER (Empoasca mali LeB.)

Wisconsin — J. E. Dudley, Jr. (June 12-20): Season about two weeks earlier than usual in Waupaca and Racine Counties. Rainfall slightly below normal; temperature above normal. Heavy rains second week in June. Adults of Empoasca mali are quite abundant although no nymphs have been observed to date. At Racine adults numbered about 4 per plant, and the insect bids fair to become epidemic this year.

TOMATO SUCKFLY (Dicyphus minimus Uhler)

Mississippi — R. W. Harned (June 20): Specimens of the tomato suckfly were collected by R. P. Colmer, our Inspector with headquarters at Moss Point. They were found in large numbers on tomatoes in that vicinity. So far as my personal observation goes, this is the first time that the tomato suckfly has been reported injurious in Mississippi.

STALK BORER (Papaipema n tela Guen.)

Indiana — J. J. Davis (June 3): Larvae are quite small and destroying recently set tomato plants at Elnora.

Wisconsin — E. L. Chambers (June 10): Specimens of infested potato vines were sent in from Sparta by a correspondent who reports it doing serious damage in his garden.

Nebraska — M. H. Swenk (May 25): The first complaint of injury by the stalk borer for the year was received on May 23. The tiny caterpillars were starting to bore in tomato plants in an old cornfield.

BLISTER BEETLES (Meloidae)

Kansas — H. W. McColloch (June 21): Blister beetles are doing serious damage to potatoes and other garden crops in Russell, Rooks, Grah and Dickinson Counties.

CORN EARWORM (Heliothis obsoleta Fab.)

Florida — F. S. Chamberlin (May 27): Abundant and doing severe damage to tomatoes in Gadsden County at the present time.

AUSTRALIAN TOMATO WEEVIL (Listroderes obliquus Gyll.)

Florida — J. E. Graf (June 18): The Australian tomato weevil, now known as Listroderes obliquus (formerly Desiantha nociva Lea), has been reported from Escambia County.

Florida and Alabama — M. M. High (May 19-23): The weevil was found on turnip at the following points: Mobile, Mobile County, Ala. (previously reported); Fair Hope, Baldwin County, Ala.; Brewton, Escambia County, Ala.; Evergreen, Conecuh County, Ala.; Grove Hill, Clarke County, Ala.; Leroy, Washington County, Ala.; and Pensacola, Escambia County, Fla.

Alabama — R. W. Harned (June 22): H. P. Loding, Mobile, writes as follows: "Van Aller has been finding Desiantha nociva in Satsuma groves, possibly on Solanum."

Mississippi — J. E. Graf (June 18): The Australian tomato weevil has been reported from Bay St. Louis and Crystal Spring, Miss.

Louisiana — W. E. Hinds (May 28): The Australian tomato weevil appears to be continuing its spread in this State and will be found as far West as Denham Springs in Livingston Parish, and as far north as Amite and Bogalusa.

J. E. Graf (June 18): The Australian tomato weevil has been reported from Satsuma, Holden, Tickfaw, Independence, Amite, Fluker, Clinton, and Greensburg, La.

C. E. Smith (June 23): The following is the known distribution of Listroderes sp. in Louisiana.

Locality	Parish	Locality	Parish
Ponchatoula	Tangipahoa	Livingston	Livingston
Hammond	Tangipahoa	Greensburg	St. Helena
Covington	St. Tammany	Baton Rouge	East Baton Rouge

A single specimen was collected at Hammond by both Dr. Hinds and Mr. Deen, and one at Ponchatoula, one at Livingston, one at Greensburg, and a single one at Baton Rouge. The species was quite numerous at Covington, in which locality breeding evidently occurred.

MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Ohio — H. A. Gossard (June 23): Gryllotalpa hexadactyla was received from Akron June 1, where it was reported as doing considerable damage to potatoes.

CABBAGE

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Massachusetts — A. I. Bourne (June 22): The cabbage maggot seems to be about normally abundant. Prof. Koon reports that the growers who are using the corrosive sublimate treatment are thoroughly convinced of its efficacy.

New York — C. R. Crosby and assistants: This insect is doing considerable damage on several unprotected cabbage seed beds in Genesee County. A severe infestation was noticed in several cabbage fields which were about 1/4 grown in Wayne County on June 6.

M. D. Leonard (June 9): Dr. Chupp reports cabbage maggots generally prevalent and destructive to early cabbage in the field in Albany and Schenectady Counties. Many growers are planning to use corrosive sublimate treatment.

C. R. Crosby and assistants: Early cabbage in the field is receivin considerable injury as is late cabbage in the seed bed in Onondaga County. Apparently it is more serious than last year.

Ohio — Eugene Mendenhall (June 5): The cabbage maggot is quite troublesome in the vicinity of Columbus this spring.

H. A. Gossard (June 23): The cabbage maggot has been quite destructi locally about Wooster. The experimental plots on the Experiment Station Farm were destroyed by the maggots before their presence was discovered and no preventive treatment had been followed from the date of transplanting. From one dozen to thirty or forty maggots could be found on the roots of every plant.

Indiana — J. J. Davis (June 24): Reports of injury to cabbage and radish continued to be received from northern Indiana up to June 1.

Illinois — W. P. Flint (June 18): The cabbage maggot has, according to C. C. Compton, been much more abundant than usual in this State. Severe damage has already occurred in many of the large trucking sections.

Wisconsin — E. L. Chambers (June 10): The cabbage maggot is doing serious damage to radishes, cabbage, and cauliflower. Specimens of injured plants submitted were badly infested.

Oregon — Don C. Mote (May 20): Very abundant and doing considerable damage, according to observations and reports.

CABBAGE APHID (Brevicoryne brassicae L.)

Nebraska — M. H. Swenk (May 28-June 25): The cabbage aphid has been rather more than normally injurious this spring. One extensive growers of cabbage in Boone County has had to report to spraying this year for the first time.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

Illinois — W. P. Flint (June 18): C. C. Compton reports the cabbage flea beetle more abundant than usual this spring, causing severe injury to cabbage and cauliflower seedlings.

ONION THRIPS (Thrips tabaci Lind.)

New York — H. C. Huckett (June 13): Are becoming numerous in the seed bed of cauliflower at Riverhead.

A FLY (Scaptomyza terminalis Loew)

California — T. D. Urbahns (May 21): R. R. McLean from San Diego County reports as follows: "The losses in this district this year due to the attacks of this insect are approximately 20 cars of cauliflower valued at $20,000."

STRAWBERRY

STRAWBERRY CROWN MOTH (Aegeria rutilans Hy. Edw.)

Oregon — B. G. Thomson (May 20): Adults have been emerging for a week or so at Corvallis.

CLIMBING CUTWORMS (Lampra spp.)

Massachusetts — A. I. Bourne (May 26): A complaint from northern Worcester County in Lunenburg has come in of injury to strawberries, both by climbing cutworms and pheasants. The report concerning the pheasants states that they are occasionally finding considerable injury from this source to early garden stuff alongside strawberry beds.

TARNISHED PLANT BUG (Lygus pratensis L.)

Arkansas — A. J. Ackerman (May): The nymphs of the tarnished plant bug caused as much as 40 per cent damage in some fields at Bentonville, by producing buttoning of the berries. Growers report that they have not been troubled with this pest in past years.

A MYRIOPOD

Indiana — J. J. Davis (June 24): Reports of injury to ripening strawberries by a myriopod received from Winamac May 29.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Massachusetts — A. I. Bourne (May 26): The county agent of Bristol County reports the asparagus beetle in that region present and causing considerable injury, beginning about the 15th to the 18th of the month. Mr. Haynes, from southern Worcester County, reports similar abundance and injury on approximately the same date. (June 22): Both species of asparagus beetles are present in about normal abundance, slightly worse than last year, if anything, and we began to note their presence early in June at Amherst.

New York — D. D. Ward (June 13): A 1-acre planting has received very serious injury in Onondaga County.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

CORRECTION — N. F. Howard (May 25): In the May 1 issue of the Bulletin, Vol.

V. No. 2, page 72, the second line of my report should read "There has not been much activity in hibernation cages."

North Carolina — Franklin Sherman (June 30): The complaints indicate it as worse than usual in our mountains where it has been for several years, also it is causing much worry in the foot-hill section where this is the first year of injury.

Alabama — N. F. Howard (May 25): The first adult was taken in the field at Birmingham March 30, almost three weeks earlier than in 1923 and 1924. At this date over 20 per cent of the beetles in hibernation cages had emerged. The light infestation in this district is undoubtedly due to the small number of beetles entering hibernation last fall on account of the prolonged drought.

BEAN LEAF BEETLE (Cerotoma trifurcata Foerst.)

Ohio — T. H. Parks (June 19): These beetles were common during June in central Ohio (Pickaway County) and eating holes in leaves of young beans grown for canning factory. I have seen serious damage from this insect in the Southern States but its work is rarely noticed in central Ohio.

Illinois — S. C. Chandler (June 12): Injury much less than earlier in the season and beans are looking better at Pulaski, Alexander, Jackson, and Union.

RED SPIDER (Tetranychus telarius L.)

Illinois — S. C. Chandler (June 12): Serious injury in one field at Cairo, with 100 per cent of plants attacked.

LIMA BEAN STEM BORER (Monoptilota pergratialis Hlst.)

Mississippi — R. W. Harned (June 22): Monoptilota pergratialis was found injuring butter beans in Meridian on June 4.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Connecticut — W. E. Britton (June 24): Slight infestation in various parts of State. No particular damage.

Wisconsin — J. E. Dudley, Jr. (June 22): The pea aphid has increased very rapidly during the past week, numbering from 20 to 70 in three sweeps of an insect net up to from 175 to 300 in different fields. From present indications the insect bids fair to do considerable damage to late peas. Season about two weeks earlier than usual; rainfall slightly below normal; temperature above normal. Heavy rains second week in June. Coccinellids are common; syrphid flies are common, and parasites are scarce.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Connecticut — R. B. Friend (June 24): This insect has appeared in numbers around

New Haven during the last two weeks on squash, melons, and cucumbers.

Massachusetts A. I. Bourne (June 22): The striped cucumber beetle is apparently normally abundant.

New York H. C. Huckett (June 13): Although this insect is generally present it has not been found in as large numbers as in past years.

H. E. Newland (June 13): They are about as abundant as usual this year at Honeoye Falls.

Wisconsin J. E. Dudley, Jr. (June 20): Probably due to the relatively cool weather in May in Racine County beetles were late in putting in their appearance and, as a result, most of the cucurbits have put out several true leaves and are well beyond danger of being killed outright. The usual gregariousness noticeable in spring and fall is most pronounced at present, the adults congregating in masses of from 10 to 40 on one leaf.

Minnesota A. G. Ruggles (June 13): The striped cucumber beetle has made its appearance in this State.

Missouri L. Haseman (June 25): This common pest is attracting attention on melons and related crops throughout the State, though in central Missouri it is less abundant than it was a year ago. However, it is doing serious damage to crops which are now protected with insecticides.

Nebraska M. H. Swenk (May 25-June 25): About the normal number of reports of injury by the striped cucumber beetle are being received.

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica 12-punctata Fab.)

Mississippi R. W. Harned (June 22): J. A. McLemore, Picayune, reported on May 6: "This pest is doing much damage to crops in and near Picayune, but seems to be worse upon pole beans in the town of Picayune."

Minnesota A. G. Ruggles (June 13): The spotted cucumber beetle has made its appearance in this State.

PICKLE WORM (Diaphania nitidalis Cramer)

Mississippi R. W. Harned (June 22): The pickle worm has been received from points along the Gulf Coast and also about 50 miles north of the Coast.

ONION THRIPS (Thrips tabaci L.)

Virginia Herbert Spencer (June 4): Cantaloupes and cucumbers are showing injury from the onion thrips. Nicotine dusts are being used with good success for protecting the plants.

A NEMATODE

Mississippi K. L. Cockerham (June 5): Specimens were sent to this office on June 5; field inspections have since been made. After three to

four pickings the cucumber vines have been almost killed. The yield has been very seriously cut. One farmer stated that he would lose $300 on five acres as a result of this nematode outbreak. Vats have been installed here at Biloxi this spring and the pickle business looked very promising; now the prospect is that the pickle business at this point is killed for the future.

MILLIPEDS

Maine — E. M. Patch (June 6): A correspondent from Wilton writes as follows: "For several years they have been doing damage to our gardens and bedding plants, especially cucumbers, as they injure the fruit. They seem to be on the increase and in most everybody's garden."

MELONS

MELON APHID (Aphis gossypii Glov.)

Florida — J. R. Watson (June 16): The melon aphid has done less damage than usual to the watermelon crop this year.

Nebraska — M. H. Swenk (May 25-June 25): About the normal number of reports of injury by the melon aphid are being received.

Mexico — A. W. Morrill (June 16): This pest is usually present and more or less destructive to cucurbits in gardens in the Yaqui Valley, Sonora, Mexico. The first commercial crop of cantaloupes since 1911 was grown in this locality this spring, the shipping season ending early in June. No aphid attack was observed or reported by representatives of the shipping organizations who are in touch with all the growers. No aphids on volunteer cotton.

Arkansas — Dwight Isely (June 20): The melon aphid is causing damage to cantaloupe and other cucurbits in the cantaloupe section of southwestern Arkansas in Sevier County, near Ft. Smith in Sebastian County, and in Washington County.

BEAN THRIPS (Heliothrips fasciatus Perg.)

Mexico — A. W. Morrill (June 16): This pest multiplied on peas during December, January, and February, transferring to cantaloupes when the pea vines dried up. Principal damage to cantaloupes was in May when the crop was maturing. On June 6 abundant on peas and beans in gardens in the Yaqui Valley, Sonora, as well as in cantaloupe fields, but none found on cotton and alfalfa in near-by fields although these are subject to injurious attack by this species.

SQUASH BUG (Anasa tristis DeG.)

Missouri — L. Haseman (June 25): This pest has appeared a little earlier than usual and is already present attacking young squash and related plants.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Georgia — O. I. Snapp (June 8): Seriously damaging a field of watermelons at Fort Valley. A grower had to hand-pick and use nicotine sulphate.

ONIONS

ONION THRIPS (*Thrips tabaci* L.)

Indiana — J. J. Davis (June 24): Onion thrips reported as especially abundant on onion at Fremont June 16 and Angola June 19.

Illinois — W. P. Flint (June 18): C. C. Compton reports that the unusual weather conditions for the first part of June have brought out the onion thrips two or three weeks earlier than usual. Quite severe damage is now being done in part of Cook County.

ONION MAGGOT (*Hylemyia antiqua* Meig.)

New York — W. D. Mills (June 6): Eggs were found in considerable numbers in a planting or two in Oswego County, while in another the maggots had hatched.

Wisconsin — E. L. Chambers (June 10): The onion maggot has been a serious pest in Barron, Washburn, Racine, and Shawano Counties, according to our reports.

J. E. Dudley, Jr. (June 20): Infestation appears to vary more than usual from field to field in Racine and Kenosha Counties. Apparently there is less than last year, particularly on the cull onions used as a trap crop. It may be interesting to note that adult flies are still emerging from several hundred puparia placed in ground last fall in a large hibernation cage. Something over 300 puparia have just been sifted from the ground. All appear alive and it seems likely that adults will continue to emerge for two or three weeks. Damage will probably run from very slight (less than 10 per cent) to 20 or 30 per cent in some fields. No natural enemies observed.

Illinois — W. P. Flint (June 18): C. C. Compton reports the onion maggot as causing heavy losses to onion set growers in the Chicago district. The injury is not quite as severe as in 1924 in the southern part of Cook County, but more severe in the north. Many growers are using the oil Bordeaux spray for the control of this insect.

Oregon — Don C. Mote (May 20): A 4 per cent damage represents only the percentage of small onion plants that have been destroyed up to this date. The damage to the crop can not be determined until later. Eggs, maggots, and adults present.

SWEET POTATO

YELLOW-STRIPED ARMYWORM (*Prodenia ornithogalli* Guen.)

Florida — J. R. Watson (June 16): The sweet potato caterpillar appeared in destructive numbers in some fields early in June, some weeks before its usual date of appearance.

TORTOISE BEETLES (Jonthonota (Cassidae) nigripes Oliv. and Metriona (Coptocycla) bivittata Say)

Mississippi — R. W. Harned (June 22): The above named beetles were received from Columbus, where they were feeding on sweet potato leaves on June 18.

SAWFLIES (Sterictophora ebena Norton)

Florida — B. L. Boyden (June 8): Mr. Merrill writes that he found sawflies very abundant in a sweet potato patch in Sanderson.

BEETS AND SPINACH

SUGAR-BEET WEBWORM (Loxostege sticticalis L.)

Montana — Stewart Lockwood (June 8): The first brood of moths of the sugar-beet webworm is now flying though they do not seem to be in as heavy numbers as last year.

A BEET LEAF-MINER (Pegomya vicina Lint.)

Delaware — C. O. Houghton (May 25): Abundant at Newark as usual, a large percentage of the leaves being infested.

SPINACH LEAF-MINER (Pegomya hyoscyami Panz.)

New York — W. D. Mills (June 5): Eggs were found very abundantly in several plantings in Wayne County, while a small number of larvae were at work.

Indiana — J. J. Davis (May 25): Reported at Elkhart on spinach and chard. Damage is severe.

TURNIPS

GARDEN WEBWORM (Loxostege similalis Guen.)

Kansas — J. W. McColloch (June 21): Webworms were reported webbing the tops of turnips at St. John early in June.

RADISH

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Delaware — C. O. Houghton (May 20): More abundant than usual at Newark, a large percentage of the crop being infested.

Oregon — Don C. Mote (May 20): Only those radishes raised before the emergence of the fly and those raised under a screen are free from maggots.

RADISH WEEVIL (Cleonus sparsus Lec.)

Oregon — E. G. Thomson (May 20): Heavy infestation in vicinity of Corvallis. One patch 100 per cent infested; 15 eggs found on one radish.

OKRA

MELON APHID (Aphis gossypii Glov.)

Mississippi — R. W. Harned (June 22): Aphis gossypii has been causing serious injury to okra at several places in the State during May and June. Several reports on watermelons have also been received from the Delta section of the State.

PEPPERS

A CARABID (Bembidion quadrimaculatum L.)

Ohio — H. A. Gossard (June 23): Bembidium quadrimaculatum was sent to me under date of June 19 from Dover where they were said to be eating at the roots of peppers, causing the plants to die.

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

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

GENERAL STATEMENT — Cooperative Report on Boll Weevil Emergence from Cage Tests Prior to June 16.

The following report covers weevil emergence from the various cage tests for the period prior to June 16. It will be noted that in the past years at Tallulah, the emergence on that date has been practically completed, an average of 1.7 per cent of the weevils coming out any later. The heaviest emergence which has ever been experienced after June 16 was in 1923 when 9.12 per cent of the weevils emerged between June 16 and early July. There is little liklihood of any such emergence this year and it seems safe to assume that for all practical purposes, the records given in this report may be considered as more or less final Field observations are checking these records with a very fair degree of accuracy. Unusually heavy infestations prevail in Alabama and South Carolina. Georgia conditions are more spotted, but local heavy infestations are quite prevalent and the average infestation is reasonably high.

Throughout the Mississippi Valley and adjoining territory, extremely spotted conditions prevail. In some small sections it is difficult to find more than a very light sprinkling of weevils, while a short distance away in many instances, weevil infestations will be found.

Throughout northeastern Louisiana the average infestation is light but scattered fields running as high as 25 per cent of 35 per cent infestation are found. Infestation in much of Texas is still exceedingly light and the dry weather has reduced some of the infestations which looked more serious early in the season. To summarize, weevil damage for this season is, of course, a matter of weather at all points, but particularly in the western half of the belt there is little liklihood of more than local damage unless reasonably rainy weather prevails during the next 30 days or more. At the same time, however, farmers should bear in mind that in practically all places there are ample weevils in the fields to quickly produce a serious infestation in a brief

period of rainy, showery weather, such as has prevailed for the last week or so, and now is a very good time for vigilane in detecting such infestations and reducing them as quickly as possible.

It will be noted that the present report also includes general conditions on weevil tests as well as the cage emergence tests. The cooperation which was inaugurated in dealing with cage-emergence records has been exceedingly valuable, and a similar cooperation has been arranged to deal with the progress of weevil and other cotton insect conditions throughout the season. Other stations which did not have hibernation cage tests are joining in this movement and the following new cooperators are now listed: R. W. Harned, Entomologist, A. & M. College, Miss.; L. Haseman, Professor of Entomology, University of Missouri; Dwight Isely, Association Entomologist, Fayetteville, Ark.; and C. E. Sanborn, Entomologist, Stillwater, Okla.

In addition, reports are received from other Federal channels such as the pink bollworm inspectors of the Federal Horticultural Board and it is planned to bring this information together twice a month so that a general cross-section of cotton insect condition throughout the majority of the belt will be available.

The percentage of weevils placed in cages lastffall which had emerged prior to June 16 at the different points is shown in the following table:

Locality	Per cent of number put into cages which have emerged
Auburn, Ala	15.49
Baton Rouge, La.	6.62
Florence, S. C.	6,44
College Station, Tex.	6.40
Clemson College, S.C.	3.80
Experiment, Ga.	1.55
Aberdeen, N. C.	.93
Rocky Mount, N. C.	.37
Holly Springs, Miss.	.08
Tallulah, La.	.01

At Tallulah, La., during the past nine years an average of 98.30 per cent of the total emergence was completed prior to June 16. The average emergence to the same date was 1.48 per cent.

At points near College Station, Tex., in 1906,1907, and 1908, the average survival was 5.3 per cent. An average of 99.66 per cent of the total emergence was completed prior to June 16, or 5.18 per cent.

At Florence, S. C., in 1924 on June 15, 98.67 per cent of the total emergence was completed. The emergence to the same date was 0.34 per cent.

REPORTS ON BOLL WEEVIL INFESTATION

South Carolina — F. A. Fenton (June 15): The square infestation ranges from 0 to 40 per cent in the vicinity of Florence.

Georgia and Alabama — J. F. Jackson, Agricultural Department, Central of Georgia RR: Survey carried on between June 5 and 23 in central and southern Georgia and southwestern Alabama indicates that from 0 to 1.8 per

cent of the squares are punctured in the eastern counties, Washington, Jefferson, Burke, Screven, and Bullock; 6.6 per cent at one point in Baldwin County. In the southwestern part of the State puncturing ranges from 3 to 14 per cent in Sumter, Lee, Carroll, Randall, Clay, Dougherty, Calhoun, and Early Counties. In Alabama percentage of puncturing is decidedly higher, ranging from 6 to 37 per cent in Tallapoosa, Lee, Russell, Bullock, Dale, and Houston Counties.

Alabama — J. M. Robinson (June 17): An unusually heavy weevil infestation, with calcium arsenate dusting under way for control at Pine Apple. (June 19): In several fields at Auburn the number of weevils per acre ranged from 1 to 70. In one of these fields the square infestation was 22 per cent. The infestation in central and southern Alabama is relatively high as contrasted with last year.

Georgia — V. V. Williams (June 8-14): At Valdosta examined 4,800 squares finding 83 punctures, an average of 1.7 per cent punctured squares. Eight fields examined. Infestation ranged from 0.8 to 16.3 per cent.

Oklahoma — C. E. Sanborn (June 12): The first authentic record of boll weevil appearance was in Bryan County on June 5 and very few weevils in that section.

Arkansas — D. Isely (June 16): Half-grown weevil larvae have been found in squares in Miller County.

Mississippi — T. F. McGehee: From May 29 to June 15 examined 20,200 plants, finding no weevils at Holly Springs.

R. W. Harned (June 15): Weevil infestations are very spotted throughout the State. In the southeastern section examinations were made on 19 farms in 5 counties; the weevils found per acre ranged from 0 to 400; the square infestation ranged from 0 to 0.5 per cent. In the southwestern section examinations on 36 farms in two counties showed the square infestation to be from 0 to 20 per cent. In the central and north-central section examinations were made in 7 counties; the square infestation ranged from 0 to 5 per cent. In the northern section examinations were made on 51 farms in 12 counties; the number of weevils found per acre ranged from 0 to 400, whereas the square infestation ranged from 0 to 4 per cent.

Louisiana — W. E. Hinds (May 28): The boll weevil has evidently survived the winter in large numbers in south-central Louisiana, especially. The emergence is still continuing steadily and in some fields weevils have been found as numerous as 250 per acre. In the earliest planted cotton weevils have now developed to the emergence of the first-generation adults. Poisoning for overwintered weevils is now under way in many localities.

B. R. Coad: From June 8 to 14, 20,400 squares were examined at Tallulah, 39 punctures being found, an average infestation of 0.2 per cent. Thirty four fields were examined. Infestation light and spotted, ranging from 0 to 2. 3 per cent.

W. R. Sudduth: Examined 100 plants on June 6 at Shreveport, finding no weevils and 7 punctured squares. On June 13, 100 plants showed no weevils and 1 punctured square.

Texas — W. E. Conn: Examinations made on June 6 and 13 at Ennis, finding no weevils.

A. C. Johnson: On 405 plants examined at Port Lavaca on June 2, one weevil was found and on June 10 one weevil was found. On June 15 on 200 plants examined one weevil was found with a square infestation of 6.5 per cent.

COTTON APHID (Aphis gossypii Glov.)

Illinois — S. C. Chandler (June 12): At Cairo 90 per cent of the plants were infested in all fields examined.

Tennessee — S. Marcovitch (June 14): Specimens of this aphid were sent in from western Tennessee with the report that they were very abundant.

Mississippi — R. W. Harned (June 22): Aphis gossypii is to be found to some extent in almost every cotton field. Nowhere is it reported serious to cotton so far this year.

Louisiana — W. E. Hinds (May 28): The cotton plant louse has been quite abundant on young cotton and prospects at the present time would indicate infestation to follow later in the season if weather conditions are favorable.

Texas — F. L. Thomas (June 15): Quite a number of complaints have come to us as the result of injury being produced by cotton plant lice, not only on cotton but also on watermelons.

GENERAL STATEMENT — B. R. Coad (June 15): The cotton louse is common, though not destructive as yet. Prevailing weather conditions seem to favor the reproduction of the louse, as they did in 1924.

Georgia — V. V. Williams (June 15): Lice are present in some fields with no serious injury as yet.

South Carolina — F. A. Fenton (June 16): A considerable aphid infestation was present early in the season but has practically disappeared.

COTTON LEAFWORM (Alabama argillacea Hbn.)

Texas — T. C. Barber (May 22): Found caterpillars small to about half-grown, 3½ miles north of Brownsville.

Dr. Hunter (May 28): Telegram of May 28 to B. R. Coad reads as follows: "State Entomologist (Texas) Thomas wires from Corpus Christi "Alabama argillacea larvae and pupae found 10 miles south of here. Large percentage of natural control."

F. L. Thomas (June 12): All stages of the cotton leafworm are showing up in many fields of Nueces County. They have severely ragged spots in those fields, and since the rains have been falling along the Coast we shall be fortunate if a severe outbreak does not develop.

aiti — George N. Wolcott (May 26): This is to report an outbreak of the cotton caterpillar at Plantation Bon Repos in the Cul-de-Sac, a few miles north of Port-au-Prince, a few weeks ago. On account of an abundance of rainfall, the ratoon cotton plants started growing and flowering this spring (which is rather exceptional for the cotton-growing sections of Haiti), but the rainfall kept up so that most of the bolls dropped or became diseased, and before the remainder could approach maturity the cotton caterpillars had stripped the plants. Counts made of cocoons in several parts of the field showed that 40 per cent were empty, due to a common ant attacking the prepupae. Adults of Chalcis incerta Cresson were also collected in the same field but were not abundant, and none emerged from a large series of Alabama pupae collected.

WOOLLY-BEAR CATERPILLAR (Diacrisia virginica Fab.)

exas — F. L. Thomas (May 9): The second brood which has occurred this season in southern Texas. Caterpillars are abundant and may cause considerable damage if not controlled.

COTTON SQUARE-BORER (Uranotes melinus Hbn.)

ississippi — R. W. Harned (June 22): The cotton square-borer has been received from several counties. This species has also been reported as injuring bean pods.

RED SPIDER (Tetranychus telarius L.)

rkansas — W. J. Baerg (June 25): Outbreak of red spider on cotton developing in Monroe and Crittenden Counties.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

exas — W. D. Hunter (June 10): Reports indicate general but not very heavy occurrence of the salt-marsh caterpillar throughout southeastern Texas.

F. L. Thomas (June 15): Another outbreak of Estigmene acraea was reported on about 200 acres of cotton in Brazoria County. Although the caterpillars were in practically all stages I think they are mostly of the third brood. Cotton at this point was small and much of it was being stripped. Paris green diluted with lime, 1 part in 4, was being applied but apparently only a few of the large worms had been killed.

ississippi — R. W. Harned (June 8): Damage to cotton by the salt-marsh caterpillar in Jackson, Noxubee, Oktibbeha, and Chickasaw Counties.

A TIGER MOTH (Apantesis oithona Stkr.)

Mississippi

R. W. Harned (June 22): During the past month there has been quite a serious outbreak of hairy caterpillars in cotton fields in parts of eastern and southern Mississippi. Adults reared have been determined by F. H. Benjamin, Curator of the William Barnes collection at Decatur, Ill., as follows: Apantesis oithona Stkr. (1878) form normal rectilinea French. (1879) ab. conspicua Stretch, (1906). Most of the complaints in regard to this insect came from cotton growers, but in some cases many garden plants were destroyed.

In most cases that have come to our attention, the fields where these insects have caused damage were in sod last year. In all other cases only crops adjoining pastures or uncultivated fields were attacked. Usually these worms appeared in rather low places close to swamps. Reports of these insects came from quite a number of counties, but specimens were actually received only from Jackson County on the Gulf Coast and from Noxubee, Chickasaw, and Oktibbeha Counties in the northeastern part of the State.

BEET ARMYWORM (Laphygma exigua Huebn.)

California

T. D. Urbahns (May 22): About 250 acres of first planting completely destroyed and 200 acres of second planting badly injured. Three thousand acres infested in Kern Lake district. Poisoned bran mash being sprayed by cotton planters and grain seeders over nearly 3,000 acres.

E. A. McGregor (May 26): Owing to pressure and appeals from cotton growers we were impelled to visit one planting near Poplar, Tulare County, The field was of 130 acres which on the 23d showed a perfect stand and perfect condition. During the short interval between then and the day of our visit (May 26) the pest became present in such numbers as to destroy about 12 solid acres and to threaten the entire field. A species of pigweed (Amaranthus) appeared to be the native host plant, but these weeds had become almost swept away by the vast numbers of worms.

Hardly a leaf of the cotton plants could be found in the center of infestation that was free of the caterpillars. As many as 29 larvae were counted on a single small seedling. The foliage was being skeletonized.

Judging from the complaints that have come to us concerning this pest it would seem established that its occurrence is rather general over the cotton growing area of Tulare and Kern Counties.

F. R. Braun (June 2): In Tulare County young cotton plant leaves were eaten severely by the first generation. They are pupating now, indicating that damage is over for the present.

AN ARMYWORM (Prodenia praefica Grote)

California

White C. Barber (June 15): Second cutting of alfalfa drives the larvae into cotton fields. Infestation in some localities in Kern County is serious. Good control with poisoned bran mash.

TOBACCO

CUTWORMS (Feltia sp.)

Tennessee — A. C. Morgan (June 23): Cutworms have been unusually numerous, some fields showing 100 per cent infestation of the newly-set plants over considerable areas.

SOD WEBWORM (Crambus spp.)

Tennessee — A. C. Morgan (June 23): Sod webworms have been scarcer than usual in the vicinity of Clarksville.

WEBWORMS (Crambus caliginosellus Clem.)

Virginia — A. C. Morgan (June 23): Mr. Gilmore reports that in the Dark Tobacco Belt of Virginia Crambus caliginosellus Clem. is very widespread and injurious to both young corn and tobacco. Some growers have had to reset their crops almost completely at the first resetting, and have had from 25 to 50 per cent to reset in the second and third resettings. Some fields of corn have had to be entirely replanted. Trap baits are exercising from 50 to 65 per cent control.

TOBACCO WORM (Protoparce quinquemaculata Haw.)

Florida — F. S. Chamberlin (June 19): At Quincy the hornworm emergence appears to be about normal at the present time. Usually 75 per cent of the emergence takes place between June 16 and July 15.

Tennessee — A. C. Morgan (June 23): Tobaccon hornworms are not as numerous as usual at this season of the year.

BUDWORM (Heliothis virescens Fab.)

Florida — F. S. Chamberlin (June 17): The budworm infestation in Gadsden County is about normal at the present time.

TOBACCO THRIPS (Frankliniella fusca Hinds)

Florida — F. S. Chamberlin (June 17): Although the season has been apparently very favorable for thrips no injury has resulted to tobacco from this pest. No remedies were used.

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Florida — F. S. Chamberlin (May 27): Shade tobacco in Gadsden County is only slightly infested with the tobacco flea beetle.

Tennessee — A. C. Morgan (June 23): The tobacco flea beetle has been unusually scarce this year, no reports having been received of severe damage to plant beds, and the damage to young plants in the field has been less than usual.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Florida — A. C. Morgan (June 23): During a recent trip to Florida I visited Tampa and interviewed a number of cigar manufacturers. It is interesting to know that fumigation with hydrocyanic-acid gas is coming into use in Tampa. When the work was first started there, years ago, nothing was being done to control the cigarette beetles and recommendations for fumigation met with little favor at the time. The annual loss to Tampa cigar manufacturers from returned goods amounts to $75,000 to $100,000.

GREEN JUNE BEETLE (Cotinis nitida L.)

Tennessee — A. C. Morgan (June 23): The gruboworm, Cotinis nitida L., was about as injurious as usual, a few beds being almost entirely uprooted by its activity.

WIREWORMS (Elateridae)

Kentucky — A. C. Morgan (June 23): True wireworms are very widespread in the Burley region, centering around Lexington, and scarcely a field following sod fails to show some infestation.

EASTERN FIELD WIREWORM (Limonius agonus Say)

Connecticut — W. E. Britton (June 2): About a dozen growers at Windsor report injury. One has 84 acres under cloth and 45 to 50 acres were destroyed and replanted, some of it twice. After several days of hot weather most of the wireworms disappeared, probably going deeper into the soil. (See also under general feeders.)

A WEEVIL (Trichobaris sp.)

Arizona and New Mexico — A. C. Morgan (June 23): Mr. Joe Milam, now working in Arizona and New Mexico, has sent in tobacco stalks infested with an apparently unknown species of weevil larva. These specimens have been determined as Trichobaris sp. by H. S. Barber. In the localities where this species was collected Mr. Milam reports an infestation of 75 per cent.

CRANE FLIES (Tipulidae)

Massachusetts — A. I. Bourne (June 22): Dr. Fernald visited a tobacco field just west of Amherst, in Hadley, in response to a complaint of severe cutworm injury. Upon examination of the field he could find no cutworms and none of the plants had been severed from the root but the leaves were considerably riddled and in some cases the center buds had been devoured so that probably no further development could take place. After considerable search he was able to find specimens of crane fly larvae.

Connecticut — W. E. Britton (June 5): At Windsor newly-set plants are injured by being eaten into the side of the stems just below the surface of the ground.

RICE

CHINCH BUG (Blissus leucopterus Say)

Arkansas — J. W. Ingram (June 15): Over 500 acres of unflooded rice has been destroyed by chinch bugs in Arkansas County this spring. On a much larger acreage the chinch bugs have killed so many of the young rice plants that the stand is very poor. Where discovered in time the chinch bugs are being controlled by flooding the fields. All stages of the insect were found on rice in the unflooded fields.

SUGARCANE

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Arkansas — J. W. Ingram (June 16): Sugarcane beetles were attacking rice in unflooded fields and lowering the stand to some extent in the vicinity of Stuttgart. A number of dead beetles were collected on the irrigation water in lately flooded fields.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana — T. E. Holloway and W. E. Haley (May 20): At a plantation near Morgan City numerous "dead hearts" caused by the sugarcane moth borer were noticed in a garden plot of special varieties of sugarcane. The owner estimated that within the last few weeks he has cut out 1,000 dead plants from about three-quarters of an acre. Besides large larvae we noticed one pupa. The borer is probably about two weeks in advance of a normal year.

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

GENERAL FEEDERS

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

Massachusetts — J. V. Schaffner Jr. The first generation of this species is very common in Everett and Revere, Mass., on shade trees.

New York — R. E. Horsey (June 25): The white-marked tussock moth is reported as more numerous than usual in Rochester and occurs in some numbers in the vicinity of New York City.

Nebraska — M. H. Swenk (May 25-June 25): An unusual abundance, amounting almost to an outbreak, of the white-marked tussock moth has developed in Lincoln and other cities in eastern Nebraska.

FALL WEBWORM (Hyphantria cunea Drury)

New York — E. P. Felt (June 25): Recently hatched fall webworm larvae were observed near Albany June 15.

GREEN FRUIT WORM (Graptolitha antennata Walk.)

Vermont — J. V. Schaffner Jr. (June 26): An infestation of Xylina antennata

is estimated as covering 300 acres. Feeding on black ash, willow, and soft maple. Some trees were 100 per cent defoliated on June 20.

New York — J. V. Schaffner Jr. (June 26): A few acres in a maple swamp at East Fishkill badly infested by Xylina antennata; some trees 50 per cent defoliated June 12.

FALL CANKERWORM (Alsophila pometaria Harris)

GENERAL STATEMENT — J. V. Schaffner Jr. (June 26): This species apparently quite common. Some observations recorded as follows: Southbury, Conn., some linden and maple trees stripped. At Kennebunkport, Maine, infestation along highway for a mile. On June 20th defoliation rated at 10 per cent on elm, maple, and fruit trees. At Deering Junction, Maine, quite abundant on apple.

New York — E. P. Felt (June 25): The fall cankerworm has been very abundant and injurious in the southeastern portion of Westchester County.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Missouri — L. Haseman (June 25): This pest has not shown up this spring as abundantly as during the past couple of seasons though some are complaining of the pest on fruit, shade, and evergreen trees. The caterpillar is now about a fourth grown.

LIME TREE SPANWORM (Erannis tiliaria Harr.)

New England and New York — J. V. Schaffner Jr. (June 26): Reports indicate this species is common through most of the State. Some observations recorded as follows: Westport, N.Y., very plentiful; Chesterfield, N. Y., abundant, some tree stripped; Cranberry Lake, N. Y., in forest of beech, maple, and yellow birch, trees noticeably defoliated. Barre, Vt., infestation general but light. Strafford, Londonderry, and Dorset, Vt., plentiful. Powell, Vt., light to medium infestation, Essex, Vt., area of 30 acres badly infested, some red oaks completely stripped. Jericho, Vt., plentiful, some elm and cherry trees 75 per cent defoliated. Woodford, Vt., 6 to 8 square miles of woodland heavily infested.

New York — E. P. Felt (June 25): Lime tree spanworm larvae have been extremely abundant over much of the Adirondacks and in portions of the Catskills, defoliating some of the smaller trees beside open areas and seriously injuring underbrush. The caterpillars feed by preference upon basswood, oak, hard maple, and birch in about the order named. There appears to have been no extensive stripping. The insect appears to have been relatively scarce at lower elevations.

ELM SPANWORM (Ennomos subsignarius Huebn.)

Michigan — R. H. Pettit (June 6): Reports of infestations by what I take to be Ennomos subsignarius, although, of course, it may be

something else. Any way they are light green and dark brown striped geometrid caterpillars working in woodlots and parks here and there all over.

OYSTER SHELL SCALE (Lepidosaphes ulmi L.)

Illinois W. P. Flint (June 18): There is more indication of parasitism of this scale than at any time during the last several years. A lighter hatch occurred on all trees in the vicinity of Urbana.

RED SPIDER (Tetranychus telarius L.)

Indiana H. F. Dietz (June 12): The red spider has done and is doing serious damage to all kinds of ornamental trees, shrubs, and plants, such as evergreens (all kinds), bush honeysuckle, Buddleia, phlox, delphiniums, columbine, sweet peas, asters, beans, beets, gladioli, dahlias, etc.

PERIODICAL CICADA (Tibicina septendecim L.)

Mississippi R. W. Harned (June 11): I sent out a newspaper article to all the papers in the State and the papers that circulate in this State, and in response to that, I have received a dozen or more packages of cicadas but there are no specimens of the periodical cicada. Most of the cicadas that I have received are Tibicen auletes Germ., T. vitripennis Say and a few specimens of T. sayi S&G and T. pruinosa Say. I do not believe that we will be able to get any records on Brood XXIV in this State this year. Unless some specimens are actually obtained of this brood or unless specimens were actually seen by an entomologist in 1899 and 1873, I am inclined to believe that the correspondents mistook other cicadas for the periodical cicada. I find that most people who send in cicadas think they are sending the periodical cicada. They do not realize that we have in this State about 20 other species.

Louisiana W. E. Hinds (June 15): Occurrence of the periodical cicada around Brodnax, Morehouse Parish, La., was reported at this time in large numbers and doing serious injury to the stands of cotton in some fields.

Missouri E. Haseman (May 28): In my earlier bulletin on the periodical cicada, I reported what appeared to be a number of authentic records in Missouri on the appearance of the 17-year broods which appeared in 1919. These came from an earlier survey by Prof. Steadman in the summer of 1902. I rechecked on all of the localities from which the earlier records came during the last visitation of this brood during 1919 and I failed to get a single authentic record of the ocurrence of this brood west of the Mississippi River. This of course, agrees with Marlatt's earlier report though the original Steadman records appeared to be authentic. I had the original letters from each individual reporting the appearance of the cicada in 1902, but evidently in each case they must have referred to the common 2-year cicada

for the brood failed to show up anywhere in our 1919 Survey. This merely goes to show that in records of this sort one cano never be too sure, particularly where anything new and striking comes up.

Nebraska — M. H. Swenk (May 25): Relative to Brood XVI of the periodical cicada, I believe there is an error here. Although Nebraska never extended east of the Missouri River, or south of the 40th parallel, in 1857 it included much of the Dakotas, Montana, Wyoming, and northeastern Colorado; in fact it reached its present boundaries only in 1861. Some of the earlier reports use the name in a very broad sense, and in the fifties it was sometimes loosely used for localities now in Kansas, and it may be this record of the periodical cicada for Richardson County in 1857 really pertained to some locality farther south. Again it may have been a plain misidentification. At any rate, it was not found by us in 1908 nor do I have any records of it left me by Prof. Bruner for the year 1891. My opinion is that we have only Brood IV, which I traced over a considerable area in southeastern Nebraska in 1913, and of which we have records of occurrence in Otoe County in 1896.

GIPSY MOTH (Porthetria dispar L.)

Massachusetts — A. I. Bourne (May 26): Gipsy moths are present in such small numbers that the orchardists are practically ignoring them. Mr. Farrar, of South Lincoln, finds but 20 egg masses on about 1,200 young bearing trees. (June 22): Mr. Lacroix states that while the gipsy moth can be found somewhat on a very few bogs, yet his observation would indicate that it is causing less and less damage each year.

Rhode Island — A. E. Stene (June 20): Scouting for the gipsy moth indicates that this insect is rather more widely distributed than at any time in the past and is quite a little more abundant than it was last year, although so far there has been little indication of prospective defoliation in any of the sections in which we have worked.

BROWN-TAIL MOTH (Euproctis chrysorrhoea L.)

Massachusetts — A. I. Bourne (May 26): Brown-tail moths are present in such small numbers that the orchardists are practically ignoring them.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Wisconsin — E. L. Chmabers (June 10): Specimens were sent in for determination with statement that quite a large number of trees in Milwaukee are being injured by the arborvitae leaf miner.

RED SPIDER (Tetranychus telarius L.)

Wisconsin — E. L. Chambers (June 10): Several complaints have been received from nurserymen in the southern part of the State who have had

evergreens heavily attacked by the red spider. Many arborvitae in yard in this section were plastered white with young mites while red cedars were hanging full of webs.

BIRCH

SPINY WITCH-HAZEL GALL (Hamamelistes spinosus Shim.)

New York — E. P. Felt (June 25): Hamamelistes spinosus were unusually abundant in the pseudo-galls on both gray and black birch near Albany in early June.

BRONZE BIRCH BORER (Agrilus anxius Gory)

New York — E. P. Felt (June 25): The bronze birch borer continues to destroy birches in this State, a few being removed from Highland Park, Rochester, this spring and dying or dead trees being observed here and there in other parts of the State.

BIRCH LEAF MINER (Fenusa pumila Klug)

New York — E. P. Felt (May 28): The birch leaf miner, Fenusa pumila Klug, was extremely abundant upon young birch at Stephentown, on May 27, an indication that the work of this recently introduced insect will be very prevalent another season. (June 25): The birch leaf miner is somewhat abundant and widely distributed in the eastern part of the State, the first larval generation having about completed its growth.

BOXELDER

BOXELDER PLANT BUG (Leptocoris trivittatus Say)

Nebraska — M. H. Swenk (May 25-June 25): Numbers of reports of an abundance of the boxelder plant bug on boxelder trees have been received during the period covered by this report.

BOXELDER APHID (Periphyllus negundinis Thos.)

Nebraska — M. H. Swenk (May 25): Complaints of injury by the boxelder aphid (Chaitophorus negundinis) continued to come in from western Nebraska counties during the first half of May.

ELM

SPINY ELM CATERPILLAR (Euvanessa antiopa L.)

Nebraska — M. H. Swenk (May 25-June 25): Elm trees in the city of Holdrege, Phelps County, were somewhat injured during middle June by the spiny elm caterpillar.

ELM LEAF MINER (Kaliofenusa ulmi Sund.)

Massachusetts — A. I. Bourne (May 26): Adults of this species were observed

on Campderdown elms in considerable numbers beginning about May 3.

New York — E. P. Felt (June 25): The elm leaf miner is extremely abundant on groups of unsprayed elms in Troy and vicinity.

WOOLLY ELM APHID (Eriosoma americanum Riley)

Missouri — L. Haseman (June 25): This insect was unusually noticeable, curling the leaves of the elm, particularly in the open country this spring and the migration to apple trees, particularly to young apple trees, is now showing up in the form of little clusters around pruning scars and such places. The insect does not seem to be any more abundant than during recent seasons, but it is attracting some attention.

ELM LEAF BEETLE (Galerucella luteola Mull.)

Oregon — Mr. Wilcox (May 20): Adults first observed May 5. Eggs deposited in laboratory on May 10.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Ohio — Eugene Mendenhall (June 5): In the central and southern part of the State I find the European elm scale quite general.

Herbert Osborn (May 28): Elm trees are Columbus were infested by this insect.

Wisconsin — E. L. Chambers (June 10): Several trees have been killed in Madison by the European elm scale and it has been found seriously injuring large numbers of elms in several wards of the city. Many trees in Milwaukee are attacked by it as well.

MAPLE LEAF CUTTER (Paraclemensia acerifoliella Fitch)

New York — C. R. Crosby and assistants: Specimens sent in from Brentwood, L. I., with a report that elm trees were badly injured last year and that the insects were starting to appear again this year.

JUNIPER

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Connecticut — W. E. Britton (June 24): Reported as causing serious injury to Juniperus hybernica at West Haven and Manchester.

HICKORY

A PHYLLOXERA (Phylloxera carya-avellana Riley)

Nebraska — M. H. Swenk (May 25-June 25): From Douglas County specimens of hickory twigs showing very heavy infestation with what seems to be Phylloxera carya-avellana were received late in May.

LARCH

LARCH CASE BEARER (Coleophora laricella Huebner)

GENERAL STATEMENT — William Middleton (June 10): The larch case bearer is epidemic on larch principally but also on balsam fir and white pine in New England, particularly Maine, New Hampshire, and Massachusetts, and in New York State in the region of Cranberry Lake. This information was received from H. B. Pierson and H. MacAloney of this office and S. T. Dana of the Forest Service.

Maine — E. M. Patch (May 26): Birds (kind not reported) were feeding on the larvae, specimens of case bearer received, from Westfield. (June 20): Reported from Monmouth and Columbia Falls, severe damage being done.

New York — C. R. Crosby and assistants: The larch planting on the campus at Cornell University (Ithaca) is quite badly infested by this insect.

LOCUST

GIANT SKIPPER (Epargyreus tityrus Fab.)

Indiana — J. J. Davis (June 24): The locust leaf-folder reported abundant and destructive on moss locust (Robinia hispida) at Evansville June 16.

LOCUST LEAF MINER (Chalepus dorsalis Thumb.)

Ohio — H. A. Gossard (June 23): The locust leaf miner was received from Newton June 3. It seems to be doing considerable damage in that section.

MAPLE

AN APHID (Neoprociphilus aceris Monell)

Connecticut — W. E. Britton (June 24): Observed in New Haven and Hamden, and many infested leaves had curled and turned brown.

BLADDER MAPLE GALL (Phyllocoptes quadripes Shim.)

Ohio — H. A. Gossard (June 23): Received from Paulding May 29, from Marietta June 13, and from Swanton June 17, with a report that this insect was attacking maple.

Indiana — J. J. Davis (June 24): The bladder maple gall is abundant on maple leaves in central and southcentral Indiana.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Massachusetts — J. Y. Schaffner Jr. (June 26): Several reports indicate this species as rather abundant on silver maple in towns and cities around Boston.

Ohio — H. A. Gossard (June 23): From June 6 to June 18 Pulvinaria vitis was received from Gallipolis, Massillon, Orrville, Canton,

Conneaut, Coldwater, and Cleveland. Something like one-half dozen reports were received from Canton and these indicated that practically all the trees in that city were severely attacked.

Indiana — J. J. Davis (June 24): More extensive and in many localities more abundant than for years. Infestations of conspicuous importance occurred from the extreme south to north end of the State. In past years we have had no reports from the southern half of the State.

H. F. Dietz (June 12): This scale is widely scattered over the State and reports are daily coming in from new localities. It is attracting more attention this year than any time since 1916. The infestations reported and seen vary from very light to very heavy even in the same locality.

Illinois — W. P. Flint (June 18): This insect is moderately abundant throughout central and northern Illinois, many specimens having been received during the past month from cities and towns in this area. Predators are not as abundant as usual; in fact, only very few of the scales sent in have shown any indication of the presence of ladybugs.

Mississippi — R. W. Harned (June 22): The cottony maple scale was probably never more abundant or serious in this State than it has been for the last six weeks. It has been received from many points in the State.

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

Missouri — L. Haseman (June 25): There is one locality in this State where ever so often a serious epidemic of this caterpillar develops. In 1906 they completely defoliated soft maples over a large territory in Jackson County and recently a serious epidemic from the same locality has been reported. To my knowledge, it has never attracted serious attention anywhere else in the State in the last twenty years.

PINE

WHITE PINE SAWFLY (Neodiprion pinetum Norton)

Nebraska — M. H. Swenk (May 25-June 26): In a grove of white pine and yellow pine located in southeastern Rock County injury by what seemed from the description to be the white pine sawfly was reported early in June.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Massachusetts — A. I. Bourne (May 26): We noted the first hatching young of the pine leaf scale on or about May 19-21. (June 22): The eggs of the pine leaf scale were observed to be hatching around the 20th of May. Practically all had hatched by the 25th.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

N. C. — F. C. Craighead (June 8): Recent studies have indicated that outbreaks of this insect occur during periods of abnormally low rainfall. The U. S. Weather Bureau reports that the rainfall for the first five months of 1925

has been much below normal in the southeastern sections of the United States, the deficiency in rainfall at some stations being as much as 15 inches. Should the present dry spell continue it is likely that unusually serious losses will develop this summer. It is therefore recommended that all timberlard owners keep a close watch on their pine lands. Examinations should be made once a month or oftener for clumps of dying trees, as indicated by fading or brown foliage, and reports sent immediately to Mr. R. A. St. George, Bureau of Entomology Field Station, P. O. Box 1518, Asheville, N. C.

A CHRYSOMELID (Colaspis brunnea var.)

Louisiana — C. E. Smith (June 24): Beetles doing severe injury at Covington to pine by feeding on needles. Small seedlings being injured most severely. Infestation extends from 1 mile west of Covington into Robert about 15 miles.

Mississippi — R. W. Harned (June 25): Beetles were collected by our Inspector Mr. H. Gladney, at Ocean Springs, on June 23,1925, from the property of Mr. T. P. Harden, and sent in to this office with the following note: "These beetles have eaten the foliage on ten acres of young pines. The pines look as though they have been burned by fire. My hat would not hold the beetles from three trees. The owner first noticed this infestation about one week ago."

POPLAR

COTTONWOOD APHID (Chaitophorus bruneri Williams)

Nebraska — M. H. Swenk (June 26): From Holt County a report of injury to cottonwood trees by the aphid Chaitophorus bruneri was received early in June.

A SHIELD BEARER (Coptodisca sp.)

New Mexico — Paul M. Gilmer (June 22): We have received a report from Hudson with a statement that these insects were attacking "apple trees."

J. A. Hyslop: The specimens received were Aspen so this is evidently a typographical error. The cocoons were characteristicly those of Coptodisca but several were fastened together in a most unusual manner with silken threads several times the length of a cocoon. This was apparently not accidental as in every case these coccoons were in such chains.

SPRUCE

A Eucosmid (Argyroploce abietana Fern.)

New York — E. P. Felt (June 25): Olethreutes abietana Fern.) was reared in large numbers from a specimen of Colorado blue spruce growing at Wilmington, Essex County. It has also been reported as working upon Picea asperata at Rochester. This insect appears to have been unusually abundant.

A EUCOSMID (Epinotia nanana Triet.)

New York — E. P. Felt (June 25): A small species, Epinotia nanana (Ident. Busck),

RED SPIDER (Tetranychus bimaculatus Harvey)

Nebraska — M. H. Swenk (May 25-June 25): Cedars, spruces, and other evergreens are being considerably worked upon by the common red spider during the present June.

Connecticut — Philip Garman (June 24): Caused considerable damage during May and June at Hamden, Cheshire, and Milford.

WALNUT

A MITE (Eriophyes sp.)

Mississippi — R. W. Harned (June 22): From different parts of the State black walnut leaves have been received with galls on them. These galls have been determined by Dr. E. P. Felt, Dr. H. E. Ewing, and others as being caused by Eriophyes sp.

INSECTS ATTACKING GREENHOUSE

AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

APHIDIDAE

Ohio — Herbert Osborn (May 28): Aphids of various species have been found plentifully at Columbus, and have been noticed particularly upon roses and spiraea. Coccinellid beetles and lace-winged flies have been quite effective in attacks on the aphids.

BEAN APHID (Aphis rumicis L.)

West Virginia — Fred E. Brooks (June 22): Shrubs of waahoo, Evonymus atropurpureus and strawberry bush, E. americanus, growing on a lawn are so badly injured by the bean aphid that recovery is doubtful.

RED SPIDER (Tetranychus telarius L.)

Massachusetts — A. I. Bourne (June 22): Prof. Koon reports that in the market garden section around Boston, where greenhouse tomatoes and cucumbers are grown, the greenhouse red spider is apparently becoming more and more widely prevalent.

Mississippi — R. W. Harned (June 22): Red spider injury has been reported from many places, chiefly on hedges and ornamental plants.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia — O. I. Snapp (June 6): The San Jose scale has been increasing very rapidly during the last several weeks on shrubs and ornamentals in yards of Fort Valley.

L MEALYBUGS (Pseudococcus sp.)

Mississippi — R. W. Harned (June 22): Mealybugs have been received from a number of correspondents. They apparently cause more damage in places infested with the Argentine ant than in other places. Figs and ornamental plants are most frequently infested.

GARDEN FLEAHOPPER (Halticus citri Ashm.)

Minnesota — R. E. Wall (June 13): The plant leafhopper, Halticus citri, is common in the greenhouses in the Twin Cities where mosaic trouble of cucumbers is prevalent.

GREENHOUSE LEAF TYER (Phlyctaenia rubigalis Guen.)

New York — P. J. Chapman: (A This is causing a great deal of trouble in greenhouses at Buffalo. It lays eggs in most of the stock, but particularly snapdragon.

ASTERS

CORN ROOT APHID (Anuraphis maidi-radicis Forbest)

Indiana — J. J. Davis (June 24): First report was received June 17 from Shelbyville. In this case the species was evidently Aphis maidi-radicis.

CANNA

CANNA LEAF-ROLLER (Calpodes ethlius Cram.)

Mississippi — R. W. Harned (June 22): The large canna leaf-roller has been received from several correspondents with reports of serious injury to canna plants.

COLUMBINE

COLUMBINE LEAF MINER (Phytomyza aquilegiae Hardy)

Nebraska — M. H. Swenk (May 1-25): From Boone County on the first of May came information of the practical destruction of the leaves of cultivated columbine plants by the leaf miner Phytomyza aquilegiae.

GLADIOLI

ZEBRA CATERPILLAR (Mamestra picta Harr.)

Michigan — R. H. Pettit (June 11): I received today a complaint from Dowagiac, where many thousands of zebra caterpillars are eating gladioli in the plantation of a gladiolus grower. This is rather an unusual complaint.

THRIPS SP.

Indiana — J. J. Davis (June 24): Injuring an extensive planting of gladiolus at Loogootee June 18.

GOLDENGLOW

A SAWFLY (*Macrophya simillima* Rohwer)

Connecticut — W. E. Britton (June 20): Larvae eating the lower leaves of goldenglow at Green's Farms, Westport. Plants were all defoliated last season by July 11. Adults reared and many collected this season.

HOLLAND BULBS

LESSER BULB-FLY (*Eumerus strigatus* Fallen)

North Carolina — Franklin Sherman (June 30): Mr. C. S. Brimley of this office grows a considerable number of bulbs at Raleigh, and while he has never noted insect infestation of them, yet he has twice taken the adult of this species in his garden, as follows: July 22, 1924, a male; June 16, 1925, a female. These are our first records of the presence of this insect in this State.

LILAC

OYSTER SHELL SCALE (*Lepidosaphes ulmi* L.)

New York — C. R. Crosby (April 18): Badly infested lilac twigs received from Corning. (June 7): Badly infested branch received from Ithaca.

Indiana — J. J. Davis (May 28): First young hatched May 23 at Lafayette. However, cold weather the night of the 23d stopped hatching. Consequently, the period of hatching will likely extend over a two-week period.

ORCHIDS

CATTLEYA FLY (*Isosoma orchidearum* Westw.)

North Carolina — Franklin Sherman (June 30): An orchid-grower at Asheville report injury which was investigated by Mr. J. C. Crawford who reports it to be this insect. This is our first record of this insect in the State.

PHLOX

RED SPIDER (*Tetranychus telarius* L.)

Indiana — J. J. Davis (June 24): Reported injuring phlox June 5 at Lebanon. Reports from other sections of the State of injury to evergreens and hydrangea. Dry, hot weather is evidently responsible for this injury.

PRIVET

A TORTRICID (Cacoecia parallela Rob.)

New York — E. P. Felt (June 25): A tortricid, Cacoecia parallela has been very abundant and injurious to privet in Rochester.

RHODODENDRON

RHODODRENDON LACEBUG (Stephanitis rhododendri Herv.)

New York — R. E. Horsey (June 25): The rhododendron lacebug is numerous in Highland Park, Rochester.

ROSE

ROSE LEAF-ROLLER (Archips rosaceana Harr.)

New York — E. P. Felt (June 25): R. E. Horsey reports that the rose leaf roller was very numerous in early June on hybrid perpetual roses at Rochester.

ROSE SAWFLY (Caliroa aethipps Fab.)

Nebraska — M. H. Swenk (May 25-June 25): The first report of injury by the rose slug for the season was received from Polk County on June 11.

FLOWER THRIPS (Euthrips tritici Fitch)

Michigan — R. H. Pettit (June 15): I am receiving and finding the common flower thrips on many flowers this year. The hot, dry spell during which we have just passed seems favorable to them. Many rose buds are being blasted.

STALK BORER (Papaipema nitela Guen.)

New York — E. P. Felt (June 25): R. E. Horsey reports that the stalk borer has been attacking tender rose tips at Rochester.

A SCARABAEID (Trichiotinus piger Fab.)

Indiana — H. F. Dietz (June 12): A heavy infestation of adults of this insect was observed in the flowers of hybrid perpetual roses. As many as 8 adults were taken from one bloom. They were apparently after the pollen but were ruining the flowers in their attemps to get to the stamens. The variety Frau Karl Druschki was most heavily attacked.

SPIRAEA

SPIRAEA APHID (Aphis spireaella Schout.)

Missouri — L. Haseman (June 25) This aphid has attracted attention throughout the month of June though it is growing less abundant toward the end of the month.

SUNFLOWER

A CERAMBYCID BEETLE (Mecas inornata Say)

Mississippi — R. W. Harned (June 22): The cerambycid beetle Mecas inornata was found girdling the tops of sunflowers at Natchez by W. L. Gray on June 13.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

HOUSE FLY (Musca domestica L.)

Missouri — L. Haseman (June 25): Though the season is not very far advanced the house flies seem more abundant than usual and especially for this season of the year.

Texas — O. G. Babcock (June 22): House flies are more numerous at Sonora, San Angelo, and Ozona at this time of the year than ever before observed for the past five years. A few cases of typhoid fever reported and one death. Source of infection not proved definitely. There are no sewage systems in Ozona or Sonora.

CHIGGERS (Trombicula irritans Riley)

Indiana — J. J. Davis (June 24): Reports of chigger abundance have been received from southern Indiana.

Nebraska — M. H. Swenk (May 25-June 25): The first reports of chigger attack on man for the season have come from Boyd County on June 17.

Missouri — L. Haseman (June 25): Throughout central Missouri during the middle of June the first signs of an epidemic of chiggers was observed and complaints are coming into the office from various localities.

Texas — O. G. Babcock (June 22): On May 11 the first record of chigger attack was obtained from Menard. The chiggers were very few in numbers. A later visit on June 21 gave 42 chigger bites on the person, a great increase over May 11 of approximately 90 per cent.

MOSQUITOES (Culicidae)

Mississippi — R. W. Harned (June 22): Troy Thompson reports mosquitoes unusually abundant at Waveland, in Hancock County, on the Gulf Coast.

SALT-MARSH MOSQUITO (Aedes sollicitans Walk.)

Louisiana — T. E. Holloway (June 15): For the last few days the City of New Orleans has been overrun with salt-marsh mosquitoes,

Culex sollicitans. Not only the residence districts but the business section is invaded and the mosquitoes bite day and night.

BLOOD-SUCKING CONENOSE (Triatoma sanguisuga Lec.)

Mississippi — R. W. Harned (June 22): Several specimens of this bedbug were received from a correspondent at Woodland, who wrote: "They were found in our house last year and have appeared again this year. I have found them mostly on the beds and they sting or bite the children at night. Last year I found about two dozen of them, finding from one to three at a time. This year we have found three, one of them in a neighbor's house."

DOG FLEA AND CAT FLEA (Ctenocephalus canis Bouche and C. felis Bouche)

Nebraska — M. H. Swenk (May 25-June 25): More than the usual number of infestations of houses with fleas were reported during June.

Missouri — L. Haseman (June 25): Complaints continue to come in regarding fleas infesting livestock farms in particular.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Ohio — F. C. Bishopp (April and May): During April and May this tick was fairly abundant in brushy pastures in the region around Columbus.

Wisconsin — F. C. Bishopp (April): This tick was reported to be present in great abundance in the vicinity of Fifield during April. It was causing blood loss and "worry" to livestock and attacking man.

Nebraska — M. H. Swenk (May 1-25): A Kearney County woman complained of getting infestation by the American dog tick while pulling weeds in her flower garden on May 5.

HORSES

HORSE FLIES (Tabanus spp.)

Missouri — L. Haseman (June 25): Recently over portions of central Missouri an unusual epidemic of two species of horse flies has occurred.

CANYON HORSE FLY (Tabanus rubescens Bell.)

Texas — E. W. Laake (June): The canyon horse fly has increased considerably during this month in the Dry Frio Canyon. As many as 25 flies have been observed on one animal during the last few days.

CATTLE

HORN FLY (Haematobia irritans L.)

Ohio — F. C. Bishopp (May 27): The number of horn flies has increased

considerably during the month but cool weather has held them in check to some extent. The average number per animal is about 200. Although they are annoying dairy cattle some dairymen have not begun to spray for them.

Missouri L. Haseman (June 25): This little fly is now infesting livestock in swarms and seems more abundant than usual at this season.

Texas E. W. Laake (May 20): It is rare to see over half a dozen horn flies per animal in southwestern Texas. The extreme dry and hot weather has held this species of fly down to such an extent that in many places it seems to be almost entirely absent. (June 20): Horn flies have increased considerably during the last month and conditions are now very favorable for their development.

O. G. Babcock (June 20): At Menard adults are averaging from 150 to 250 flies per animal. Sores were also beginning to appear. (June 23) At Sonora adults are averaging around 50 to 100 per animal. Very few signs of sores appearing.

STABLE FLY (Stomoxys calcitrans L.)

Ohio F. C. Bishopp (May 27): A few stable flies have been present at Columbis throughout the month but they have not been numerous enough to cause much annoyance to stock.

SCREWWORM (Chrysomya macellaria Fab.)

Ohio F. C. Bishopp (May 28): In examining swarms of flies around an animal rendering plant near Columbus I saw and collected a single specimen of the screwworm fly. This is probably the earliest occurrence recorded for this species at this latitude. The following percentages show the approximate relative abundance of the different species at this rendering plant:

Phormia regina	84.5 per cent	Lucilia sericata	0.25 per ce
P. terraenovae	15.0 per cent	Musca domestica	0.25 per ce

Texas E. W. Laake (May 20): The screwworm fly is extremely abundant compared to other species of flies throughout southwestern Texas. Worm cases in livestock are increasing and are very heavy where animals have recently been branded. (June 20): The screwworm fly is unusually abundant throughout southwestern Texas. In the Nueces and Frio canyons trappings show that over 95 per cent of all flies caught are of this species and when a good bait is supplied the traps fill up from 2 to 3 times a week. Worm cases have increased over 200 per cent during this month. In one herd of sheep in the Dry Frio Canyon 16 per cent of the animals were infested. The average is about 2 to 3 per cent for all classes of livestock, but is from 50 to 100 per cent for new-born calves and freshly branded animals. One case of screwworms infesting the ear of a three-months-old Mexican child living in the Dry Frio Canyon, 30 miles north of Uvalde, has been under the observation of the writer during the past week.

O. G. Babcock (June 23); Flies continuesin superabundance at Sonora. "Wormy" cases in wounds continue on all ranches. Remedial measures

as recommended by U. S. D. A. are being carried out, especially as to worm killers and repellents.

CATTLE GRUBS (Hypoderma bovis DeG. and H. lineatum DeVill.)

Ohio F. C. Bishopp (May 27): Apparently annoyance from the oviposition of the cattle bot flies has not been very great to date. Cattle have been attacked on warm days but the actions indicate that the agitation of the stock is mostly due to H. lineatum.

On May 1 apparently all H. lineatum larvae had left the cattle's backs. On May 27 a considerable number of H. bovis larvae were still present in the backs of the cattle. The number ranged from 0 to 15 per animal.

There is some difference of opinion as to comparative number of grubs in the backs of cattle in Ohio this year as compared with the average. Most agree that the number is less than last year, which was an exceedingly bad year for them.

GOATS

SPINOSE EAR TICK (Ornithodoros megnini Duges)

Texas E. W. Laake (June 20): Almost all sheep, cattle, and many goats are infested in the upper Dry Frio Canyon. Both pear and adult stages are present. Several cases of screwworms, resulting from sore ears caused by the ear tick, have been observed.

SUCKING GOAT LOUSE (Linognathus stenopsis Burm.)

Texas E. W. Laake: Fairly common in the Dry Frio Canyon and some individuals are heavily infested.

BITING GOAT LICE (Trichodectes hermsi Kellogg and T. climax Nitzsch)

Texas E. W. Laake: Every goat observed in the Dry Frio Canyon is infested with biting goat lice. The infestations are very heavy in most herds and are causing considerable damage to mohair. Very little dipping is practiced.

POULTRY

POULTRY LICE

Ohio F. C. Bishopp (May): The body louse, shaft louse, and head louse are present in about the usual numbers this spring. Some flocks are very heavily infested, the body louse being the most abundant and injurious. Where chicks have been hatched with hens about the normal loss has been sustained.

CHICKEN HEAD LOUSE (Lipeurus heterographus Nitzsch)

Texas E. W. Laake: The chicken head louse is present in almost all flocks observed in the Dry Frio Canyon. At many places this pest has caused great annoyance and considerable losses among young chickens.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Indiana — J. J. Davis (June 24): Continued to receive reports of damage to various crops and to young chickens from points from the south to the north end of the State. Last reports received June 3.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Texas — E. W. Laake (May 20): Examinations of farm flocks along the highw from Dallas to Reagan Wells, in southwestern Texas, have shown that the abundance of sticktight fleas is the greatest in many years. From the vicinity of Austin to southwestern Texas the infestations were very heavy and the losses in egg production and young chickens was tremendous. Cases were recorded where the entire flock of young chickens was killed where no control methods were used. (June 20): Heavy infestations of sticktight fleas are found at almost every ranch or farm home in the Dry Frio Canyon. This pest has been observed in great numbers on goats, mules, horses, and other domestic animals. The losses of poultry are particularly heavy in this region.

O. G. Babcock (June 21): The last month has been unusually favorable for the development of the flea about Sonora. However, they do not compare to Menard as to abundance, where severe infestations are to be found. Cats, as well as chickens, are severely attacked.

FOWL TICK (Argas miniatus Koch)

Texas — E. W. Laake: This pest is present at every farm or ranch home where chickens or turkeys are kept in the Dry Frio Canyon. The infestations are from moderate to heavy and, together with fleas, have caused heavy losses in young chickens and turkeys.

CHICKEN MITE (Dermanyssus gallinae Redi)

Texas — O. G. Babcock (June 23): For the past two to three weeks the comm roost mite, Dermanyssus gallinae, has been on the increase at Sonora. Several complaints have come to hand. The mites are increasing rapidly.

INSECTS INFESTING HOUSES AND PREMISES

EUROPEAN EARWIG (Forficula auricularia L.)

Rhode Island — A. E. Stene (June 20): A few reports on the European earwig have come in again from Newport and it is apparently as abundant as last year.

POWDER POST BEETLE (Lyctus planicollis Lec.)

Mississippi — R. W. Harned (June 22): Lyctus planicollis Lec. was reported on June 1 as seriously damaging oak furniture at Rich. Specimens were determined by W. S. Fisher of the Bureau of Entomology,

TERMITES

Nebraska — M. H. Swenk (May 1-25): Another report of injury to a house by the termite Reticulitermes tibialis was received on May 18, this time from Hall County.

Kansas — J. W. McColloch (June 21): Serious damage to woodwork in buildings has been reported from McPherson, Salina, Lawrence, and Manhattan.

California — C. K. Fisher (May 28): The termites are working in three or more houses on adjoining lots or those close together at Alhambra. In the house where most damage has been done they were first observed about a year ago after they had eaten through the floor in a closet into a trunk and into a pair of shoes which were in the trunk. The closet floor was repaired and the termites were not observed again until they had eaten some of the floor joints away and were coming through the hardwood floor in the living room. This was a week ago.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 August 1, 1925 Number 5

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

INSECT PEST SURVEY BULLETIN

Vol.5 August 1,1925 No.5

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR THE MONTH OF JULY,1925

Grasshoppers, as a whole, are not causing any serious general devastation. Reports of unimportant and very localized outbreaks have been received from the Middle Atlantic, East-Central, Upper Mississippi Valley, Great Plains, and Rocky Mountain States, as well as Mississippi and Texas.

The Mormon cricket is doing considerable damage to alfalfa in Wyoming and is very abundant in the Uinta Basin in Utah.

White grubs are generally less prevalant than last year in the East-Central and West-Central States.

Reports of unusual abundance of cutworms continue to be received from practically the entire country, extending from Maine to Florida and westward to Oregon.

Recent surveys indicate that the Hessian fly is less prevalent than last year in Ohio and Iowa, while on the other hand the poor wheat crop of Kansas is largely attributed to this pest, one county alone estimating the loss af 1,250,000 bushels.

The wheat stem maggot is attracting considerable attention in Iowa, South Dakota,and Nebraska.

The chinch bug is appearing as a pest in northwestern Ohio, the southeastern corner of Michigan, North-central Kansas, western and southwestern Missouri, and scatteringly over Arkansas. It is still attracting much attention in Mississippi and Louisiana, in the latter State the outbreak being more widespread than ever heretofore recorded. A marked increase in chinch bug infestation is anticipated in Illinois.

The corn earworm is reported as unusually abundant in the southeastern States and seriously infesting corn and tomatoes in southern Indiana, Illinois, Missouri, and Louisiana.

The stalk borer continues to be reported as attracting an unusual amount of attention in New England and the East-Central States, the reports extending westward to Iowa, Nebraska, and Missouri.

Small outbreaks of the armyworm are reported from New England and the Middle Atlantic States, Michigan, and Iowa.

The grape colaspis is seriously abundant in Morgan, Jersey, and Scott Counties, Illinois, in some cases parts of cornfields being plowed up because of this infestation. This insect is also reported as attacking truck crops in Indiana.

The corn root aphid is seriously prevalent in parts of the East-Central States.

The alfalfa weevil is recorded for the first time on the eastern slope of the Rocky Mountains in Fremont, Natrona, and Converse Counties, Wyoming. The pest is now in the head waters of the Missouri River. This pest is reported as more abundant than during the last four years in Utah.

Reports of unusual infestations of alfalfa by thrips have been received from Kansas and Montana.

The Colorado potato beetle is unusually abundant in the southeastern States and Indiana. This pest now seems to be thoroughly established in the Yakima district of Washington.

The potato leafhopper occurs in outbreak form in the Norfolk section of Virginia and generally prevalent in the potato districts of Ohio, Indiana, Wisconsin, Iowa, and South Dakota.

The potato aphid is seriously prevalent in Connecticut and on Long Island, New York.

The known distribution of the Mexican bean beetle has been very considerably increased during this season. The pest has advanced eastward to Monongahela and Tucker Counties in West Virginia, within 20 miles of the Maryland State Line, northward to the southern third of Indiana in Monroe and Fayette Counties, and westward to the northeastern corner of Mississippi. There has been practically no southward and but slight southeastward advance of this pest.

The western spotted cucumber beetle occurs in outbreak form in the Sacramento Valley of California, attacking susceptible truck crops and seriously damaging ripe apricots and peaches.

An unusual pest of onions, one of the phalacrid beetles (Stilbus apicalis Melsh is reported from Illinois.

The codling moth is reported as decidedly more serious a pest than usual in Virginia, Ohio, and Illinois. Its injuries are also reported as very severe in Sonoma County, Calif., but much less prevalent than usual in Washington State.

The European red mite has been more troublesome than usual in New England and New York and is reported as also troublesome in the Lake region of Ohio.

The oriental fruit moth is reported as much more abundant than last year in Connecticut and reports of damage have been received from Delaware, North Carolina and Indiana.

A rather unusual attack of wireworms was received from California, where the sugarbeet wireworm was found seriously damaging the bark of recently set persimmon trees.

Boll weevil infestations continue exceedingly "spotted" over the cotton belt. Infestations are generally light in Texas, Arkansas, Tennessee, northern Louisiana, Alabama, Georgia, western South Carolina, and North Carolina, whereas in the Delta section of Mississippi and Louisiana generally high infestations prevail, as is also the case in southern Georgia and eastern South Carolina and North Carolina.

The corn silk beetle is reported from western Alabama and eastern Mississippi as unduly alarming cotton growers by its attack on cotton.

The cotton flea is reported as doing considerable damage in Georgia and recorded for the first time in Mississippi. In Texas this pest is much less troublesome than it has been for several years, as also seems to be the case in South Carolina and Louisiana.

A cotton leaf worm outbreak now seems to be general throughout Louisiana and Texas, and scattered through Mississippi and Arkansas.

The birch leaf miner is more prevalent than usual in New England and New York States.

In this number of the Bulletin is a summary of termite complaints received by the Bureau during the fiscal year 1925.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR JULY, 1925

The month of July as a whole has been particularly cool; considerable rain has fallen in most parts of the Dominion with the result that insect activities have been subnormal.

Although cutworms still continue to be a source of serious loss, particularly in the Provinces of Saskatchewan and Alberta, the peak of the infestation has been reached and a more hopeful outlook is expected.

Though late in emerging, owing to the cool weather, there is a widespread infestation throughout Manitoba of the western wheat-stem sawfly Cephus cinctus Norton.

Mosquitoes have been exceptionally abundant in Manitoba, whereas in Saskatchewan a species of Simulium is reported to have been so numerous as to kill poultry and many small birds, besides inflicting severe bites on many people in the vicinity of Indian Head. From this Province also comes the report that large fields of sunflowers have been completely destroyed by the leaf-feeding beetle Zygogramma exclamationis Fab.

June beetles have proved a veritable pest in the Province of Quebec, especially in the Eastern Townships and along the border line westward to Lake Champlain. A very heavy flight occurred just at the end of June and no less than 5,000 adults were taken in four trap lanterns. Elms, maples, and ash appeared to suffer the most. In many cases the trees were stripped.

The currant sawfly, Pteronidea ribesii Scop., and the striped cucumber beetle, Diabrotica vittata Fab., have both been very troublesome in different parts of New Brunswick.

The maple leaf cutter, Paraclemensia acerifoliella Fitch, so severe last year especially in the western parts of Quebec Province, has again appeared in large numbers. However, the infestation is not considered as being very severe at present, although reports show Covey Hill to be the centre of a bad attack just now.

In British Columbia a fresh infestation of the Douglas fir bark beetle, Dendroctonus pseudotsugae Hopk., has been discovered on Crazy Creek Watershed, amd opposite Canoe.

The strawberry weevil, Anthonomus signatus Say, has been particularly numerou in parts of New Brunswick, as well as in British Columbia.

Grasshoppers in great swarms have been reported from Vernon, Rock Creek, Kettle Valley, and many other points in British Columbia, with the result that th fruit growers have suffered severe losses.

In parts of southern Alberta the false chinch bug, Nysius ericae Schill., has been very numerous.

The Caragana hedges in southern Saskatchewan have been severely attacked by the Caragana beetle, Lytta nuttalli Say. This pest has also fed upon a wide variety of leguminous garden crops.

GRASSHOPPERS (Acridiidae and Locustidae)

ryland — P. D. Sanders (July 25): Grass hay from a 65-acre meadow at LaPlata was cut and Melanoplus femur-rubrum flew into a 98-acre cornfield, where they were severely injuring the first eight rows. Flight was unnoticed for the two preceding days. Poisoned bran bait was used for control.

laware — C. O. Houghton (July 14): To date I have seen none of this species (Melanoplus femur-rubrum DeGeer) and very few individuals of other locusts, owing I believe in large measure to the very dry and hot weather we have had here this year.

io — T. H. Parks (July 25): Damage to oats occurred in some counties before harvest. The insects cut off the grain before it was mature. They migrated from hay fields to corn and are injuring the soybeans planted with the corn. Some injury to corn is beginning and young clover in wheat and oat stubble is being damaged. The outbreaks are local and not country-wide but well scattered over the State. Some poisoning is being done.

diana — J. J. Davis (July 20): Abundant at Fortville, eating vegetable garden plants and flowers, especially chrysanthemums. (July 23): First report of injury from Evansville, July 3, where they were reported damaging alfalfa and soybeans. From other sections of the State reports of grasshopper abundance are being received. No general outbreaks, except at Evansville, so far reported. (July 14): Grasshoppers were reported as being bad in clover at North Vernon.

H. F. Dietz (July 23): Grasshoppers are unusually abundant throughout the greater part of the State and are doing some damage to truck crops and flowering plants. They are also doing considerable feeding on such forage crops as soybeans.

linois — W. P. Flint (July 20): Grasshoppers are moderately abundant locally at many points in central and northern Illinois, being more numerous this season than in 1924. No reports of severe damage have yet been received.

sconsin — S. B. Fracker (July 10): No economic damage anticipated except on sandy land on Washington Island and in Waushara, Burnett, and possibly Marinette Counties.

uth Dakota — H. C. Severin (July 15): A small outbreak of grasshoppers has developed at Ft. Pierre on truck crops, grain, and alfalfa.

braska — M. H. Swenk (June 25-July 25): Grasshoppers have not been very injurious this season so far. In the North Platte Valley they began hatching about June 29 but not in excessive numbers. Within the last few days (July 21) reports of a heavy destruction of grasshoppers in that region by a species of Sarcophaga (probably Kellyi) have been received. The greatest amount of trouble with grasshoppers in this State that has developed so far is in Harlan and Franklin Counties.

Missouri — L. Haseman (July 24): With the cutting of the meadows, grasshoppers are attracting attention in scattering epidemics, but with the rather abundant rains during the fore part of the season it is not likely that serious damage will result.

Kansas — J. W. McColloch (July 20): No serious outbreak has been reported this season. Some damage to alfalfa has occurred in Russell, Logan, and Osborne Counties.

Oklahoma — C. E. Sanborn (July 24): The grasshopper which has been exceedingly injurious this spring has been controlled to a marked extent by use of the poisoned bran mash.

Mississippi — R. W. Harned (July 25): Grasshoppers that were reported as injuring truck crops at Union on June 16 have been identified by Mr. Caudell of the Bureau as Melanoplus atlanis Riley, Trimerotropis sp., and Orphulella pelidna Burm.

Texas — W. A. Baker (July 1): Grasshoppers in the entire section north and east of Dallas are giving no serious trouble to the farmers. The infestations are confined to river and creek bottoms and are very scattered in these places. Aside from Dallas County, very little poison has been used. M. differentialis Thos. comprises at least 90 per cent of all the hoppers present that have come under my observations. At the present time the hoppers are fast reaching maturity and consequently are appearing in the cultivated crops to a certain extent. However, I have yet to find an infestation which the farmer felt he was unable to handle as the hoppers came into his fields.

Utah — G. F. Knowlton (July 21): Grasshoppers are causing comparatively little damage in Utah at the present time.

I. M. Hawley (July 25): Grasshoppers are doing almost no damage in the State this year with the exception of San Pete County. Here Camnula pellucida Scudd. has been very abundant.

Montana — Stewart Lockwood (July 17): The grasshopper situation in the Yellowstone River Valley is of considerably less importance now than in the fore part of June. In the Stillwater Valley, where they were very numerous at that time, there were seven days of rain and cloudy weather and shortly after that grasshoppers were observed dead, clinging to foliage. At the present time the dead grasshoppers give the vegetation in some fields a decidedly brownish cast.

FIELD CRICKET (Gryllus assimilis Fab.)

South Dakota — H. C. Severin (July 15): The usual large number of black field crickets have hatched in alfalfa fields of the western half of the State. We expect considerable loss from these to alfalfa seed producers.

MORMON CRICKET (Anabrus simplex Hald.)

ah — I. M. Hawley (July 25): Abundant in the mountains above the Uinta Basin but it is so far from cultivated fields that little damage to them is anticipated.

RRECTION — In Volume 5, No. 4, page 154, note on Mormon crickets credited to Stewart Lockwood "Montana" should read "Colorado."

oming — Stewart Lockwood (July 17): Complaint has come to this office from Wyoming regarding the Mormon crickets which evidently are doing considerable damage to alfalfa in the upper benches of the mountain regions in central Wyoming. Range also is suffering considerably.

WHITE GRUBS (Phyllophaga spp.)

linois — E. C. Foley (June 16): The grubs are raiding several lawns at Toluca. Sod can be rolled up like a rug. I find from 10 to 25 per square foot. They were not noticed last year. Moderately wet this year and last with exception of dry spring this year. I found no parasites so far.

W. P. Flint (July 20): A number of reports of white grub damage have come in from the northern part of the State; in most cases this has consisted of damage to lawns. The feeding by the third-year grubs continued later than usual this season, probably owing to slow growth during 1924. The first adult Cyclocephala beetles were taken in Urbana at lights June 20 of this year, which is nearly one month earlier than the beetles appeared in 1924. The numbers of adults have not been as great as in 1924, but a heavy flight has been noted. Three hundred and forty five adults were taken in three hours at a small light exposed on a porch. One hundred or more beetles have been noted around single street lights in Urbana.

sconsin — S. B. Fracker (July 10): Not as many complaints as might be expected and little economic damage is anticipated.

braska — M. H. Swenk (June 25-July 25): In great contrast with last season, there is little complaint of injury by white grubs. Those few that have been received all come from northeastern Nebraska.

lahoma — C. E. Sanborn (July 24): The wingless June beetle Phyllophaga cribrosa Lec. has done considerable damage in the southwestern part of the State to growing cotton.

CUTWORMS (Noctuidae)

ine — E. M. Patch (June 24): The "red-backed cutworm", Euxoa ochrogaster Guen., is doing great damage to oats and garden vegetables over an extended area of Aroostook County this season.

Massachusetts — A. I. Bourne (July 24): Mr. Lacroix, of the Cranberry Substation states that the black cutworm, A. ypsilon Rott., is abundant on one cranberry bog this season.

Connecticut — W. E. Britton (June 24): Unusual amount of cutworm injury all over the State to all vegetable crops.

Delaware — J. C. Adams (June): Only about 50 per cent stand of cantaloupes and cucumbers in some fields, owing to attacks of cutworms, in Sussex County.

Florida — F. S. Chamberlin (July 17): Fields of young beans at Quincy are heavily infested with cutworms at the present time.

Wisconsin — S. B. Fracker (July 10): Cutworms have attracted more attention than any other insect with total damage about as usual.

Iowa — C. J. Drake (July 9): The variegated cutworm, Peridroma margaritosa Haw., is doing some damage here and there to alfalfa fields in the State. It seems to be more abundant in the eastern and central portions of Iowa.

Kansas — J. W. McColloch (July 15): Damage by cutworms has been reported from several localities in northeastern Kansas. The damage has occurred to late planted corn on land which was under water during the spring floods.

Utah — I. M. Hawley (July 25): Cutworms have been abundant in gardens and fields all thourh the spring. The damage is over at the present time.

Oregon — L. P. Rockwood (July 13): Several moths in houses at Forest Grove have laid eggs on window curtains, etc., and others were captured at lights. Larvae in all stages are met with in field. It is believed by the writer that an outbreak of this species (Lycophotia margaritosa Haw.) is getting under way. Lovett reported a serious outbreak in 1914. I believe there has been no serious outbreak since.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Louisiana — T. E. Holloway and W. E. Haley (June 30): The southern grassworm seems to be rare this year in the vicinity of New Orleans.

WIREWORMS (Elateridae)

Iowa — C. J. Drake (July 9): Wireworms are very abundant in northeastern Iowa this season. Extensive experiments have been started with various chemicals by Prof. B. B. Fulton for the control of wireworms

ALFALFA WEBWORM (Loxostege commixtalis Walk.)

Oklahoma — C. E. Sanborn (July 24): The alfalfa webworm is quite prevalent in cotton and alfalfa fields.

WHEAT

HESSIAN FLY (*Phytophaga destructor* Say)

io

T. H. Parks (July 25): The results of the wheat insect survey show that the Hessian fly is under control in all but a few central and west-central counties. The highest infestation found was 28 per cent of the culms in Darke County, western Ohio. The average infestation for the State is 7 per cent compared with 11 per cent in 1924. The greatest decrease in infestation has been in northeastern counties where there is now only a trace present.

wa

C. J. Drake (July 9): During the latter part of June Fred D. Butcher, Extension Entomologist, made a survey of the winter-wheat-growing district of Iowa. Special efforts were made to examine early seeded fields. In several cases a few flaxseeds were found in these fields but practically no commercial damage was observed. Reports from various county agents indicate that the Hessian fly loss for the 1925 wheat crop will be practically nil. In Mills County one field drilled 10 days before the safe-seeding date showed an infestation of 4 per cent. A field of volunteer wheat in Polk County, the only field examined by the county agent and Mr. Butcher that contained the Hessian fly, showed an infestation of 6 per cent. In southeastern Iowa several fields drilled a few days before the safe-seeding date showed an infestation of from 1 to 6 per cent. No fields have been badly damaged by the Hessian fly. Over 90 per cent of the farmers of the winter-wheat-growing portion of the State cooperated in the Hessian fly campaign in the fall of 1924.

nsas

J. W. McColloch (July 21): There is no question but what the Hessian fly was responsible for a large part of the poor wheat crop in Kansas. From reliable information and from personal field surveys, we are safe in saying that thousands of acres in the State were abandoned before harvest and that where the wheat was not abandoned the loss varied from 5 bushels to, in some cases, 10 bushels per acre. Stafford County estimates the loss due to the Hessian fly at 1,250,000 bushels. In the fields about Riley County it has been found that the fly reduced the crop at least 50 per cent.

WHEAT STEM MAGGOT (*Meromyza americana* Fitch)

wa

C. J. Drake (July 9): The wheat stem maggot is rather abundant over practically the entire winter wheat growing area of the State. Records indicate that this insect is doing more damage to winter wheat than the Hessian fly this year in Iowa.

uth Dakota

H. C. Severin (July 20): The average number of wheat stem maggots are with us again this year over the State on wheat, barley, and rye.

Nebraska — M. H. Swenk (June 25-July 25): The wheat stem maggot continued to be considerably complained of until harvest.

JOINTWORM (Harmolita tritici Fitch)

North Carolina — F. Sherman (June 30): Apparently this insect did more injury than usual in our wheat crop now being harvested, especially in the east-central portion of the State.

CORN

CHINCH BUG (Blissus leucopterus Say)

Ohio — E. W. Mendenhall (July 3): A severe outbreak of the chinch bug is reported in Hardin County. The farmers are making a great effort to conquer them. (July 21): Even though the numbers are large little damage has been done so far in Miami County and it is probable that the damage will not be great unless the bugs get into the corn. Now attacking wheat and oats.

T. H. Parks (July 25): Chinch bugs appeared as a pest in several northwestern counties on corn. Hardin County used two carloads of tar for barriers. The bugs seriously damaged some corn, the damage being confined in most cases to outside rows. In some fields corn several rods distant from the border was killed or damaged. One-third of a 20-acre field in Putnam County was destroyed by the bugs.

Illinois — W. P. Flint (July 20): The weather of late June and early July has continued very favorable to the development of this insect, the rainfall being below normal in most parts of the State where this insect is numerous. The second generation of nymphs are now appearing in the fields, and conditions are such that we expect a marked increase of this insect during the next two months.

Michigan — R. H. Pettit (July 2): Mr. Harman tells me that the chinch bug is quite plentiful in Monroe County, which is located in the southeastern corner of the State.

Nebraska — M. H. Swenk (June 25-July 25): The heavy, beating rains which fell during early June over most of the area menacingly infested with chinch bugs produced such a heavy mortality among them that the prospective losses were enormously reduced. One area, with Lancaster and Gage Counties as the center, did not share so heavily in these rains, and as a consequence the chinch bugs have done considerable serious damage in this area. The migration, which began in some fields on June 20, started unusually early and was largely over by July 10. Most of the bugs had gained their wings by July 15.

Kansas — J. W. McColloch (July 20): Damage in the northern half of the State was severe, the area of greatest loss being Osborne, Mitchell, and Cloud Counties. Rains in July have resulted in the appearance of fungus in many fields.

Missouri — L. Haseman (July 24): In scattering epidemics chinch bugs have occurred in various counties, largely throughout the western and southwestern half of the State.

Arkansas — Dwight Isely (July 15): Chinch bugs are unusually abundant in this State this year on corn. Damage has been observed in Lee, St. Francis, Prairie, Crawford, Sebastian, Pulaski, and Washington Counties. A light infestation was also noted in Miller County.

Mississippi — R. W. Harned (July 8): Chinch bugs are still attracting much attention throughout the State. Complaints in regard to their injury to corn are received at this office almost every day. (July 25): A correspondent from Tunica sent us specimens of chinch bugs on July 24, with the statement that they were doing considerable damage to his corn.

Louisiana — W. E. Hinds (July 22): I think that the chinch bug occurrence in this State has been more widespread this year than heretofore known. Some 8 acres of corn were destroyed at Grayson and 20 acres of oats at Bosco. The occurrence ranged as far north as Franklin and Ouachita Parishes.

CORN EAR WORM (Heliothis obsoleta Fab.)

North Carolina — F. Sherman (June 30): Several reports, not many but perhaps more than usual up to this date. We have also had the same reported from ears of corn and also as attacking seed pods of vetch. In this last case the sending showed a serious degree of injury.

Florida — F. S. Chamberlin (July 11): Cornfields in the region about Quincy are heavily infested at the present time. In several fields examined it was estimated that at least 85 per cent of ears contained larvae.

Indiana — H. F. Dietz (July 23): The corn ear worm is a very serious pest of sweet corn in the southwestern part of the State. It is also attacking tomato fruits quite seriously, especially in the region around Elnora and Petersburg. In the vicinity of Indianapolis the corn ear worm has been doing considerable damage to gladiolus flowers by boring into the opening buds.

Illinois — W. P. Flint (July 20): Full grown larvae were found at Urbana on July 9. Some ears of sweet corn examined on this date showed the larvae had left the ears. A few eggs can now be found on freshly silking corn in the field.

Missouri — L. Haseman (July 24): Sweet corn and early field corn is being attacked by a brood of corn ear worms. The oldest of these are now practically mature.

Louisiana — T. E. Holloway and W. E. Haley (June 30): Found to be doing some damage to ears of field corn in the vicinity of New Orleans.

STALK BORER (Papaipema nebris nitela Guen.)

Massachusetts — A. I. Bourne (July 24): Present in about normal abundance, causing its usual amount of damage. The larvae are about two-thirds grown.

Connecticut — M. P. Zappe (July 8): Heavy infestation in corn at Campville. Potatoes are not so severely injured.

W. E. Britton: They have also been received from Stratford, Thomaston, Taconic, and Monroe.

Ohio — E. W. Mendenhall (July 27): The stalk borer, which is taken by the laymen as the European corn borer many times, keeps us busy investigating. I find this pest quite bad in different parts of the State on dahlias and other plants, especially in Clark and Champaign Counties.

Indiana — J. J. Davis (July 23): We continue to receive numerous reports of injury by this species.

Illinois — W. P. Flint (July 20): Specimens of the larva of this insect continue to come in. Most of the injury reported has been to corn, and some to garden crops.

Wisconsin — S. B. Fracker (July 10): Somewhat more damage than usual. Observed attacking raspberry at Kaukauna; and reports of infested potato sent in from Sparta and tiger lily from West Bend.

Iowa — C. J. Drake (July 9): Very abundant over a large portion of Iowa this year. Reports from various counties indicate that it is doing a considerable amount of damage to corn, oats, wheat, timothy potatoes, and various garden and truck crops. A few fields of corn have been almost entirely destroyed. In other regions a considerable amount of damage has been done on the margins of fields, especially in regions where weeds have not been kept down in fence rows.

Missouri — L. Haseman (July 24): This insect has attracted more attention in the State this spring than in 20 years and it has done considerable damage, particularly to corn and truck crops. Epidemics are associated with weedy fence rows and newly plowed bottom land.

Nebraska — M. H. Swenk (June 25-July 25): During late June and up to July 10 there were many complaints of injury, some of it rather serious, along the margins of cornfields. The present season was marked by an unusual amount of injury by this insect.

ARMYWORM (Cirphis unipuncta Haw.)

Massachusetts — A. I. Bourne (July 24): Mr. Lacroix, of the Cranberry Substation, states that the armyworm is abundant on one cranberry bog this season.

Connecticut — B. H. Walden (July 2): Heads and leaves of timothy badly injured, leaving little but the bare stalk. About 20 acres injured on one farm at Wallingford.

Delaware — C. O. Houghton (June 15): Several small "armies" reported marching in the vicinity of Middletown, the first that have come to my notice in some time.

Maryland — P. D. Sanders (June 19): At Massey 20 acres of rank timothy and red clover hay was cut and the armyworm marched from the hayfield and destroyed 2 acres of a 6-acre cornfield. Tachina parasite eggs (from 1 to 7) were on at least 90 per cent of the larvae six days after the hay was cut. The weather has been extremely dry.

Michigan — R. H. Pettit (June 24): Armyworms appeared in the southern part of the State and were reported on Monday, June 22, in the mint fields. According to my informant they were not attacking the mint by preference but seemed to prefer other plants growing in the mint fields.

Iowa — C. J. Drake (July 9): Several adults of the armyworm were collected at light in Story County during the latter part of June.

SEMITROPICAL ARMYWORM (Xylomyges eridania Cram.)

Florida — E. W. Berger (July 8): During about the middle part of June E. L. Kelly, Assistant Nursery Inspector, reported an outbreak at Kendall, Dade County. The report further stated that the worms had devoured a field of corn and were migrating to young citrus trees near by.

SOD WEBWORMS (Crambus spp.)

New York — M. D. Leonard (June 30): One field at Penn Yan has 65 to 75 per cent loss on about 2 acres from Crambus zoellus Fern.

Ohio — G. A. Runner (July 5): Sod webworms have caused considerable damage to young corn in several localities in northern Ohio. Larvae collected in corn and in the narrow leaved plantain (Plantago lanceolata) at Vermillion were determined as Crambus caliginosellus Clem.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Alabama — J. M. Robinson (June 30): The sugarcane beetle has been attacking corn over Tuscaloosa County.

CORN ROOT WORM (Diabrotica longicornis Say)

South Dakota — H. C. Severin (July 15): A severe outbreak occurred in the vicinity of Utica.

GRAPE COLASPIS (Colaspis brunnea Fab.)

Illinois — J. H. Bigger (July 3): Corn damaged by larvae and adults in numbers of fields in Morgan, Jersey, and Scott Counties. In some cases half of a field was plowed up because of this. Adults are now working on leaves and the central shoot.

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

Ohio — T. H. Parks (July 25): This insect has been reported seriously damaging corn on one or more farms in three central counties.

Illinois — J. H. Bigger (June 29-30): Present in all western Illinois in considerable numbers, some fields, perhaps 5 per cent, being seriously damaged at this time.

Wisconsin — Mr. Johnson (July 10): Moderate damage at Stoughton. This aphid is rarely injurious in this State.

ALFALFA AND CLOVER

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Wyoming — C. L. Corkins (July 15): A recent survey conducted by Mr. Snow, of the Salt Lake Laboratory, and Mr. Gilbert, of this office, discloses the presence of the alfalfa weevil in Fremont, Natrona, and Converse Counties. This is the first known infestation of this insect on the eastern slope of the Rocky Mountains, and places this pest at the back door of the Mississippi Valley. It is not doing damage here yet. The most weevils found were 198 larvae in 100 strokes of the net. This was at Casmyhurst. They were nearly as numerous in Bates Hole in Natrona County. The Big Horn Basin was also surveyed but no weevils were found.

Utah — I. M. Hawley (July 25): The weevil has been more abundant and caused more damage than it has in the last four years. The damage is not general but limited to some fields in several parts of the State.

A BLISTER BEETLE (Epicauta lemniscata Fab.)

Kansas — J. R. Horton (July 15): Adult beetles of this species were swarming in several places in a field 8 miles southwest of Wichita, the swarming reminding one of swarming bees. The largest single areas covered about 1½ acres. The beetles yielded to calcium cyanide dusting. Leaves were pretty well stripped from several acres.

THRIPS SP.

Kansas — R. C. Smith (July 10): This common yellow thrips is more plentiful than in recent years. A field at Manhattan and one at Minneapolis have failed as seed crops. The set of alfalfa seed was very poor, one or two to a stalk being the usual condition.

Montana — Stewart Lockwood (July 17): An unidentified thrips is being reported from several of our cooperators as being the most abundant in years in the alfalfa and clover.

CLOVER BUD WEEVIL (Phytonomus nigrirostris Fab.)

Illinois — W. P. Flint (July 20): Adults were found in woodlands as early as the first of July and were evidently going into hibernation quarters by that time. There has been a very marked decrease in the numbers of these beetles in clover fields during the last two weeks until they are now rather difficult to take in fields where a month ago they were very abundant.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Ohio — E. W. Mendenhall (July 3): The clover leaf weevil was found in great numbers just south of Kenton and some damage was done to clover.

Iowa — C. J. Drake (July 9): The clover leaf weevil destroyed a few fields of clover in Muscatine and Page Counties.

CLOVER ROOT CURCULIO (Sitona hispidulus Fab.)

Illinois — W. P. Flint (July 20): Adults of Sitona, probably S. hispidulus, are abundant in all clover fields where examinations have been made.

CLOVER HEAD CATERPILLAR (Laspeyresia interstinctana Clem.)

Missouri — L. Haseman (July 24): The moth of the clover seed caterpillar has been unusually abundant over the same territory.

CLOVER HAY WORM (Hypsopygia costalis Fab.)

Indiana — J. J. Davis (July 23): Reported abundant and destructive July 18 at Hammond.

A PYRALID (Nomophila noctuella Schif.)

Iowa — C. N. Ainslie (July 17): This moth is present this summer in large numbers; it appears at lights and is numerous in grass land.

ALFALFA LOOPER (Autographa californica Speyer)

Utah — I. M. Hawley (July 25): This insect was found to be destroying some alfalfa fields in the alfalfa seed-producing section of the Uinta Basin. Fields sprayed with calcium arsenate were recovering and growing out of the trouble.

CLOVER SEED CHALCID (Bruchophagus funebris Howard)

Utah — I. M. Hawley (July 25): This insect is always destructive to alfalfa left for seed in the Uinta Basin and Millard County. Dealers estimate the loss as from 10 to 25 per cent, and in some fields from 50 to 75 per cent of the seeds have been infested. This is the greatest handicap to seed production in these parts of the State. Some seed coils opened on July 17 had every seed infested. The fact that some seed is taken from the first crop and some from the second increases the infestation.

BUMBLEBEES

Missouri — L. Haseman (July 24): Bumblebees and bumblebee nests are more abundant in the clover and timothy meadows this summer than they have been in 20 years. Conditions look very favorable for a good clover seed crop.

SORGHUM

CORN LEAF APHID (Aphis maidis Fitch)

Missouri — L. Haseman (July 24): The common sorghum louse has been attracting some attention in central Missouri during the month, feeding largely in the curl on sweet sorghum.

Kansas — J. W. McColloch (July 20): On June 30 this aphid was reported very abundant on kafir at Osage City. A few days later the same correspondent reported that the aphids were becoming winged and disappearing. This same condition was noted at Manhattan. A very heavy infestation occurred in sorghums early in July. Winged forms were produced and the aphids are now abundant on corn.

SOYBEAN

STRIPED BLISTER BEETLE (Epicauta vittata Fab.)

Oklahoma — C. E. Sanborn (July 24): The striped blister beetle is also seriously injuring soybeans.

SPOTTED BLISTER BEETLE (Epicauta maculata Say)

Oklahoma — C. E. Sanborn (July 24): The blister beetle Epicauta maculata is very prevalent in Oklahoma. It is injuring alfalfa to a small extent and soybeans to a great extent.

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

APPLE

APHIDIDAE

Utah — Geo. F. Knowlton (July 2): The green apple aphid is damaging apple trees more than usual in the northern part of Utah, and the apple grain aphid less. Around Provo some damage is reported from the rosy apple aphid.

APPLE APHID (Aphis pomi DeG.)

New York — W. D. Mills (June 20): Aphis pomi is present in considerable numbers in a few plantings in Wayne County.

C. C. Wagoner (July 18): Young orchards show injurious infestations in quite a few instances in Ulster County.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Wisconsin — S. B. Fracker (July 10): Early alarm on the part of some orchard owners proved unnecessary as there is little direct aphid injury. The fireblight infection is general and heavy, however, and aphids doubtless aided in its distribution.

ROSY APPLE APHID (Anuraphis roseus Baker)

Massachusetts — A. I. Bourne (July 24): Colonies of the rosy apple aphid were found still upon apple as late as July 8 or 10. These were kept under observation to note the approximate time of migration to the summer host, which was practically over by the 12th to 15th of July, so that the apples were almost cleared.

Connecticut — M. P. Zappe (June 24): Aphids have all left the apple trees now at Milford, New Haven, and Hamden. Syrphid and lady beetle larvae and lady beetle adults present.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Mississippi — R. W. Harned (July 8): The woolly apple aphid was reported as quite abundant on apples at Hazlehurst on June 28.

Utah — Geo. F. Knowlton (July 21): The woolly apple aphid is killing a number of trees in Springdale and Virgin and is more damaging this season than the other apple aphids.

CODLING MOTH (Carpocapsa pomonella L.)

New York — C. R. Crosby and assistants: The codling moth is reported as decidedly unimportant in the Hudson River fruit-growing section of eastern New York.

Virginia — W. S. Hough (July 11): Unusually abundant this year in all apple sections of the State. Some unsprayed orchards showed 90 per cent of the fruit wormy by July 1. Second-brood larvae began to hatch the first week in July. First-brood eggs hatched over a period of six weeks (May 20-July 2) at Winchester.

Ohio — T. H. Parks (July 25): Experienced orchardists are having trouble to control codling moth worms in Ottawa County. The insect is so abundant and drawn out in its development this year that the three regular sprays are not giving protection. All stages of the insect were present in the orchards of this county July 21. Two summer sprays are being recommended.

Illinois — W. P. Flint (July 20): Second-brood codling moth adults are now appearing in numbers. Present indications are that this insect will be present in more than normal numbers in Illinois orchards this season where such orchards have been carefully sprayed.

Wisconsin — S. B. Fracker (July 10): A normal abundance is reported from Washington, Walworth, and Grant Counties.

Missouri — L. Haseman (July 24): The second brood of the codling moth appeared practically on schedule and the July spray in central Missouri was put on between the 10th and 15th of July.

Washington — E. J. Newcomer (July 2): On account of unfavorable weather during most of the time the first brood of moths were flying, the moths were able to lay only about one-third as many eggs as in 1924. As a result, the crop on July 1 is much cleaner than on the same date last year. The first moth of the second brood appeared July 2.

Oregon — B. G. Thompson (June 14): Eggs are beginning to hatch at Corvallis

California — O. E. Bremner (July 6): In spite of the cold wet spring infestation by this pest is particularly severe this year on both apples and pears in Sonoma County. Wet weather hindered the application of the calyx spray which may account somewhat for conditions.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

New York — E. P. Felt (July 24): The apple and thorn skeletonizer has not developed in any numbers in most localities, possibly being held in check by frequent heavy rains.

BUD MOTH (Tmetocera ocellana Schiff.)

Indiana — H. F. Dietz (July 23): Contrary to all my expectations, I find that the bud moth is a very common pest of nursery stock in Vanderburg, Gibson, and Perry Counties.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

Utah — I. M. Hawley (July 25): Abundant in orchards in and near Logan in spite of the cold winter.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts — A. I. Bourne (July 24): We found the first eggs of the apple tent caterpillar on June 23.

SPRING CANKER WORM (Paleacrita vernata Peck)

Wisconsin — S. B. Fracker (July 10): Considerable defoliation but less than during the last three years in the southeastern counties.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

New York — G. E. R. Hervey (July 4): Slight infestations observed in Dutchess County.

Ohio — G. A. Runner (July 22): Colonies of the yellow-necked apple caterpillar are numerous in young apple orchards in Erie and Ottawa Counties.

Indiana — J. J. Davis (July 24): Description indicates injury by this species at Plainfield.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New York — C. R. Crosby and assistants: Reported as scatteringly numerous in Greene, Dutchess, and Columbia Counties in eastern New York.

TARNISHED PLANT BUG (Lygus pratensis L.)

Connecticut — M. P. Zappe (July 21): Causing severe injury by stunting the growing tips of one-year apple trees in nurseries at Durham, Rocky Hill, and Ellington. Apparently more abundant than last year.

APPLE LEAFHOPPER (Empoasca mali LeB.)

New York — C. R. Crosby and assistants (June 27): Leafhoppers are found abundantly on two-year-old apple trees at Honeoye Falls. (July 18): In the nursery one and two year old trees are being severely injured. Owners of a large nursery state that these insects are present in numbers larger than they have ever experienced before.

A LEAFHOPPER (Empoasca fabae Harr.)

Wisconsin — S. B. Fracker (July 10): Scattered reports in June with no material damage.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York — E. P. Felt (July 24): R. E. Horsey reports that the San Jose scale has lightly infested plums and also Rhamnus at Rochester.

Indiana — H. F. Dietz (July 20): Throughout the whole southwestern section of the State the San Jose scale is quite abundant on neglecte fruit trees. In the vicinity of Tell City and Evansville fruit trees that have not been sprayed have been severely injured by this pest.

California — L. C. Haupt (July 6): The San Jose scale has shown up abundantly in deciduous fruit orchards, doing severe damage to peaches, prune apricots, and apples at Hanford.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Indiana — H. F. Dietz (July 23): An interesting record is the occurrence of the oyster-shell scale, apple form of Glenn, on apple nursery stock in Greene County. This is the first time that I have an authentic record of this scale occurring that far south in the State.

South Dakota — H. C. Severin (July 20): A serious infestation of this scale is found on the Horticultural grounds of the College at Brookings.

SCURFY SCALE (Chionaspis furfura Fitch)

Indiana — J. J. Davis (July 23): I continue to receive report of abundance of this insect. Since the last bulletin it has been reported as abundant on apple in the following counties: Washington, Pulaski, Warren, Marion, and Madison. Apparently abundant only in orchards not regularly sprayed with a dormant spray.

ROUND-HEADED APPLE TREE BORER (Saperda candida Fab.)

New York — C. R. Crosby and assistants (June 27): Several young orchards in Greene County have rather severe infestations.

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

Massachusetts — A. I. Bourne (July 24): Mr. Farrar, from Middlesex County, reports that the red mite had started in some cases to cause considerable foliage injury until checked by the recent very heavy rains we have experienced.

Connecticut — Philip Garman (July 24): Observed for the first time in threatening numbers on McIntosh at Branford, North Branford, and Greenwich. More abundant than last year. Dry early in the season; abundant rains later.

New York — E. P. Felt (July 24): The European red spider has appeared here and there in Hudson Valley orchards in sufficient numbers to cause serious injury, unless prevented by spraying or unfavorable weather conditions.

Ohio — G. A. Runner (July 15): Apple orchards showing foliage injury from the European red spider have been noted in practically all of the counties bordering on Lake Erie.

E. W. Mendenhall (July 27): Shade and fruit trees are badly infested with the common red spider at Springfield.

PEAR

PEAR LEAF BLISTER MITE (*Eriophyes pyri* Pgst.)

New York — C. R. Crosby (June 30): Ten per cent of a pear tree covered at Watertown. The tree has never been sprayed.

CLOVER MITE (*Bryobia praetiosa* Koch)

Utah — I. M. Hawley (July 25): This mite is very abundant on pear trees near Richfield in San Pete County. In northern Utah they are present in normal numbers. Growers do not as a rule spray for them.

PEAR PLANT BUG (*Lygus communis* Knight)

New York — C. R. Crosby and assistants (June 27): Young pear orchard infested near Medina, Orleans County. In one orchard in Genesee County serious injury by *Lygus invitus* was noted.

PEAR SLUG (*Caliroa cerasi* L.)

New York — C R. Crosby and assistant (June 27): *Eriocampoides limacina* has been observed in Columbia County but in no instance has it been causing much damage.

ROSE LEAF BEETLE (*Nodonota puncticollis* Say)

New York — C. R. Crosby and assistant (June 27): This beetle has caused considerable injury in some orchards in Dutchess County.

PEAR LEAF RUST MITE (*Epitrimerus pyri* Nalepa)

California — O. E. Bremner (July 6): Injury by this pest is very severe on French prunes around Santa Rosa, in a radius of 10 miles. This is the first time it has been noticed in this county. It is also bad on pears.

QUINCE

QUINCE CURCULIO (Conotrachelus crataegi Walsh)

New York — C. R. Crosby and assistants (July 18): Rather serious injury has resulted from the infestation in certain quince and pear orchards in Ontario County. In the few quince plantings found in Greene County this pest is quite abundant and injurious.

PEACH

GREEN PEACH APHID (Myzus persicae Sulz.)

Utah — Geo. F. Knowlton (July 2): The green peach aphid has been found damaging peach and truck crops but it is less numerous now than a little earlier in the season.

PEACH BORER (Aegeria exitiosa Say)

Illinois — W. P. Flint (July 20): S. C. Chandler reports emergence of the peach tree borer in larger numbers at this date than was the case last year.

COTTONY PEACH SCALE (Pulvinaria amygdali Ckll.)

New York — C. R. Crosby and assistant (May 28): Several peach orchards infested at Lockport.

E. P. Felt (July 24): The cottony peach scale has been extremely abundant and somewhat injurious to peach trees in Niagara County, some branches being literally festooned the last of June with the cottony masses of the females.

BLACK PEACH APHID (Anuraphis persicae-niger Smith)

Delaware — J. F. Adams (June): By estimate, 30 to 40 per cent of a block of 1,500 fall-planted peach trees have been killed at Milton.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Delaware — J. F. Adams (June): Considerable injury to apple, peach, and cherry as usual in Sussex County.

Wisconsin — S. B. Fracker (July 10): A normal abundance on apple.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Connecticut — Philip Garman (June 24): Evidence of first-brood work in twigs is abundant in one large orchard near Wallingford. (July 24): Much more abundant than last year. Second-brood larvae still in twigs and fruit at Wallingford.

Delaware — C. O. Houghton and J. F. Adams (June): Marked injury by this species has been observed at Newark and South Delaware.

orth Carolina F. Sherman (June 30): For years we have had occasional sendings of twig borers in peach, identified as Anarsia lineatella Zell., etc. During 1924 scouting by Federal workers and ourselves revealed this insect in three localities, with others under suspicion. This spring we have had several reports and sendings and in one case the Oriental moth has been identified, one other was Anarsia sp., and others not determined as yet. We strongly suspect that the oriental moth is present in many more localities than are yet known to us.

ndiana H. F. Dietz (July 23): No peach nursery stock was found to be infested with the oriental fruit moth, although a careful survey of all trees was made. However, in the City of Evansville and in the town of Mt. Vernon very suspicious injury was found on both apple and peach and I feel confident that this was the oriental fruit moth, although the caterpillar had left the injured twigs and positive identification could, therefore, not be made.

TARNISHED PLANT BUG (Lygus pratensis L.)

ndiana H. F. Dietz (July 23): "Cat faced" peaches were quite abundant in one orchard at Mt. Vernon where a heavy crop of peaches occurred. I am not certain just what was decided as the cause of this trouble but, as I remember, it was agreed to be the work of the tarnished plant bug.

GREEN JUNE BEETLE (Cotinis nitida L.)

ndiana H. F. Dietz (July 23): The green fruit beetle was found quite abundant in the southwestern section of the State, feeding largely on peach foliage and grass.

CHERRY

PEAR SLUG (Caliroa cerasi L.)

nnecticut M. P. Zappe (July 21): Causing defoliation of cherry trees at Ellington and Cromwell. One old tree about one-third defoliated. Most of the injury was in the top and south side of tree. It appears to be more abundant this year.

w York C. R. Crosby and assistant: Portions of a block of sweet cherries have been skeletonized in Orange County.

w Jersey R. B. Lott (July 23): Cherry trees in some locations in the northern part of the State are attacked this season by the common pear slug. Trees are defoliated in some cases.

ah Geo. F. Knowlton (July 21): The pear slug is doing particular damage to cherry trees around American Fork and some orchards in Provo, with a little damage in most localities.

Oregon — J. Wilcox (July 1): At Corvallis the larvae are from one-third to nearly full grown.

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York — M. D. Leonard (June 25): Infested cherry leaves received from North Cohocton.

Wisconsin — S. B. Fracker (July 10): Abundance about as usual at Sturgeon Ba

CHERRY FRUIT FLIES (Rhagoletis cingulata Loew and C. fausta O.S

New York — C. R. Crosby and assistant (July 18): Slight infestations were found in orchards sprayed according to the directions given out by the experiment station. In general, injury from this pest in Onondaga County is not as severe as last year.

Oregon — J. Wilcox (June 14): First adult fly of Rhagoletis cingulata observed at Salem.

UGLY-NEST CATERPILLAR (Archips cerasivorana Fitch)

New York — E. P. Felt (July 24): The ugly nest cherry worm is defoliating and webbing together many of the chokecherry bushes at Woodgate in the Adirondacks.

CHERRY SCALE (Aspidiotus forbesi Johns.)

New Jersey — R. B. Lott (July 20): The underside of large sweet cherry limbs are completely covered with Aspidiaspis forbesi, causing death of many large limbs at East Orange.

BARK BEETLES

Missouri — L. Haseman (July 24): A number of complaints of bark beetles attacking cherry trees have been received during the month. Their attack has usually been observed on cherry trees weakened or dying from other causes, but the beetles have been held responsible for the damage.

PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts — A. I. Bourne (July 24): Mr. Farrar, from Middlesex County, repor the curculio as being unusually abundant in that particular sectio and scarring the fruit very badly. Reports are coming in from th eastern part of the State of the occurrence of the plum curculio in some places in more than normal abundance. However, it is ver clearly the case that the percentage of damage varies directly wit the care which has been exercised in treatment of the orchard, par ticularly as to orchard sanitation and spraying.

PLUM APHID (Myzus mahaleb Fons.)

ew York — C. R. Crosby and assistant (June 20): Myzus mahaleb is becoming abundant enough in Orleans County to warrant the use of control measures in some instances.

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

tah — Geo. F. Knowlton (July 2): The rusty brown plum aphid is damaging plums, curling the leaves, and attacking the young tips of the twigs severely.

RED SPIDER (Tetranychus telarius L.)

alifornia — T. D. Urbahns (July 3): In the Sacramento Valley this mite is about three weeks later than last year in causing injury to appear on trees but is developing very rapidly and from present indications many orchards will be defoliated unless thorough spraying is immediately practiced.

PLUM GOUGER (Anthonomus scutellaris Lec.)

ississippi — R. W. Harned (July 8): The plum gouger was recently received from Woodville, in Wilkinson County, along with a number of plums that had been attacked. This insect probably always occurs in this State, but this is the first record that we have of it.

FLOWER THRIPS (Frankliniella tritici Fitch)

alifornia — O. E. Bremner (July 6): This thrips has been increasing and its damage has been greater for the last few years. It is worse than ever this year because of abundant vegetation. It is very bad on Mammoth blackberries, growing ends of prunes, etc., in Sonoma County.

RASPBERRY

RED SPIDER (Tetranychus telarius L.)

diana — H. F. Dietz (July 23): This was a common pest of black raspberries throughout the southwestern section of the State and in the town of Petersburg was causing severe rusting of the foliage of such trees as hard and soft maple. In Indianapolis it is likewise very abundant on hard maple shade trees. Contrary to expectations, the evergreens in the southwestern part of the State were not severely injured by this pest, owing to the remedial measures such as weak oil and soap and sulfur sprays that are being used to prevent injury.

RED-NECKED CANE BORER (Agrilus ruficollis Fab.)

sconsin — S. B. Fracker (July 10): So far this insect appears much less common than usual in this State. Attacking raspberry at Marion, Waupaca County.

GRAPE

ROSE CHAFER (*Macrodactylus subspinosus* Fab.)

New York — C. R. Crosby and assistants: This pest is generally less prevalent than usual throughout the State. The only serious damage reported is from East Syracuse.

Ohio and Pennsylvania — G. A. Runner (July 5): Injury to grape, peach, and apple noted in numerous localities. In the northeastern counties of Ohio the beetles were reported more numerous than in 1924.

Wisconsin — S. B. Fracker (July 10): Damage at Oconto Falls on sumac, corn, and oats and at Cadott on corn, somewhat more abundant than usual.

GRAPE PLUME MOTH (*Oxyptilus periscelidactylus* Fitch)

Massachusetts — A. I. Bourne (July 24): The moths of the grape plume moth emerged about the middle of June. Infestation reported from Waltham and vicinity was rather heavy.

GRAPE LEAFHOPPER (*Erythroneura comes* Say)

New York — C. R. Crosby and assistants: This insect is reported as quite numerous in the lower Hudson River Valley in Columbia, Dutchess, and Orange Counties but not at all serious in the Lake grape belt.

Massachusetts — A. I. Bourne (July 24): Mr. Farrar, from Middlesex County, reports that the grape leafhopper is abundant.

Ohio — G. A. Runner (July 22): Injury from overwintering adults and the first brood of nymphs has been severe in some localities. Most of the first brood of nymphs of the three-banded grape leafhopper, *E. tricincta* Fitch, var. *cymbium* McAtee, the most abundant and destructive species in the Sandusky and Lake Erie Island grape district, had transformed to the adult stage by July 20 and nymphs of the second brood are beginning to appear.

Indiana — C. R. Cleveland (July 20): Now abundant on grape at Lafayette, causing severe spotting of leaves.

California — F. P. Roullard (July 7): Damage is not general in Fresno County. However, some vineyards will sustain considerable damage by the adult hopper at this time.

GRAPE VINE APHID (*Aphis illinoisensis* Shim.)

Ohio — G. A. Runner (July 20): The grape vine aphid is common on the terminal growth in many vineyards at Sandusky. The aphids are not numerous enough to cause serious damage.

GRAPE ROOT WORM (Fidia viticida Walsh)

Ohio — G. A. Runner (July 18): Feeding marks of the adults of the grape root worm were first noted on June 19. In unsprayed vineyards adults were numerous during the first week in July. Egg clusters were numerous in vineyards in the Sandusky district on July 18. (July 25): The beetles were more common than usual in many commercial vineyards throughout the Erie Grape Belt.

RED SPIDER (Tetranychus telarius L.)

California — F. P. Roullard (July 7): Most of the damage is being done to peach and fig trees and Zinfandell grapevines. Other varieties of grapes are not touched. Shade trees also are affected.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Mississippi — R. W. Harned (July 25): A complaint, accompanied by specimens, was received from Sturgis in Oktibbeha County on July 15 in regard to the grape leaf folder, Desmia funeralis, causing injury to grapes.

EIGHT-SPOTTED FORESTER (Alypia octomaculata Fab.)

Massachusetts — J. V. Schaffner, Jr. (July 25): Abundant in several residential towns about Boston. People having one or two grapevines in the yards of their homes are having the most trouble. In some cases the vines are completely defoliated.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Ohio — G. A. Runner (July 30): Injury by the first brood of larvae of the grape berry moth has been more severe than in 1924.

Mississippi — R. W. Harned (July 25): Complaints were received recently from Pascagoula, in Jackson County, and from Columbia, in Marion County, in regard to the grape berry moth on grape. Specimens were also received from these localities.

CURRANT

CURRANT APHID (Myzus ribis L.)

Wisconsin — S. B. Fracker (July 10): Normal abundance this year in the southern half of the State.

Utah — Geo. F. Knowlton (July 2): The currant aphid has been observed curling the leaves of red currants around Ogden, Salt Lake, and Logan.

IMPORTED CURRANT WORM (Pteronidea ribesi Scop.)

Wisconsin — S. B. Fracker (July 10): Defoliation general throughout the State in unsprayed plantings of currants and gooseberries.

RED SPIDER (Tetranychus telarius L.)

New Mexico — J. R. Douglass (July 19): The red spider is causing serious damage to currant bushes in certain localities in the Estancia Valley.

CRANBERRY

CORRECTION: — A. I. Bourne (July 24): The report of the cranberry weevil as Anthonomus suturalis Lec., published in Insect Pest Survey Bulletin, Vol. 5, No. 4, July 1, 1925, page 181, should read Anthonomus musculus Say.

BLACK-HEADED FIREWORM (Rhopobota naevana Huebn.)

Massachusetts — A. I. Bourne (July 24): The second brood of the blackhead fireworm has been under way since approximately the 12th to 15th of June.

A LEAF BEETLE (Colaspis favosa Say)

Mississippi — R. W. Harned (July 8): On June 22 specimens of Colaspis favosa were found damaging blueberries at Gulfport.

PECAN AND WALNUT

OBSCURE SCALE (Chrysomphalus obscurus Comst.)

Indiana — H. F. Dietz (July 23): In the Burnett Pond region in the northwestern corner of Posey County pecans were found to be heavily infested with the obscure scale. Light infestations of this scale were also found at Rockport, in Spencer County, on pecan and at Evansville on oak.

WALNUT APHID (Chromaphis juglandicola Kalt.)

Utah — Geo. F. Knowlton (July 21): The walnut aphid is causing damage, especially early in the spring, in the southern part of Utah. There is less in the northern part of the State.

CITRUS

CORRECTION — A. E. Bottell (May 22): In Vol. 5, No. 4, page 182, Tetranychus citri McGregor should read Paratetranychus citri McGregor.

BLISTER BEETLES (Meloidae)

labama J. M. Robinson (June 30): The Meloidae have been attacking potatoes in some portions of the State.

ansas J. W. McColloch (July 20): Several species of blister beetles are present this year. The principal damage has been to alfalfa, potatoes, and tomatoes. At Manhattan the beetles stripped the blossoms from alfalfa which was being left for seed.

THREE-LINED FIG BORER (Ptychodes trilineatus L.)

ississippi Troy Thompson: The three-lined fig borer is causing quite a bit of damage to the figs in the section about Hancock County and part of Pearl River County. I have observed several places where fully 50 per cent of the trees are dead or will die.

SUGAR-BEET WIREWORM (Pheletes californicus Mann.)

alifornia R. E. Campbell (May 30): A sandy field of 15 acres at El Monte, set to walnuts, and interset with persimmons and plums was badly infested with wireworms. The land had been plowed to the trees so the soil was 2 or 3 inches higher around the trunks. The persimmon trees were being attacked by the wireworms, which were feeding on the bark above the roots but just beneath the surface of the soil. As many as 72 wireworms were taken feeding in a single persimmon trunk, but only an occasional wireworm was found in a plum trunk, and none in the walnuts.

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

MISCELLANEOUS FEEDERS

BLISTER BEETLES (Meloidae)

diana Harry F. Dietz (July 23): Blister beetles, Epicauta spp., are only moderately abundant, no heavy infestation having been observed or reported.

ssissippi C. G. Wallace (July 21): Epicauta lemniscata Fab. is reported from Water Valley with the statement that practically all foliage is eaten off of 25 plants.

R. W. Harned (July 25): Blister beetles, identified as the species Epicauta lemniscata were received on July 7 from Glendora, where they were reported as injuring cotton. Specimens of the same species were also received from Water Valley, where they were reported as injurious to truck crops.

Arkansas — W. J. Baerg (July 27): The first complaint of blister beetles came from Benton County July 15; others have since come from Monroe and Washington Counties as attacking potato, soybeans, cotton, and clematis. The species so far reported are the striped and the black blister beetles.

Nebraska — M. H. Swenk (June 25-July 25): A few complaints of injury in gardens by the blister beetles Epicauta lemniscata and E. cinerea Forst. were received from July 3 to 20.

GRAPE COLASPIS (Colaspis brunnea Fab.)

Indiana — J. J. Davis (July 23): The clover white grub adults (Colaspis brunnea) have been reported damaging strawberry, snap beans, and soybeans at New Albany, July 17, and snap beans at Salem, July 20. Have observed this beetle injuring these crops at other localities in southern Indiana during the past month.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Wisconsin — Bayfield Canning Company (July 10): This insect is reported from Bayfield as causing considerable damage to corn seedlings.

Oregon — Don C. Mote (June 17): Attacking melons, cucumber, beans, corn, barley, and wheat in various parts of the State. Infestation apparently heaviest in cold, damp soil containing considerable decaying vegetable matter. Cold, wet spring favorable to development. Injury not confined to any one part of the State. Destroyed 12 acres of melons in Morrow County. Had to reseed twice. Destroyed large areas of barley and wheat on the Tule Lake Beds of Lake County. Destroyed a quarter acre of beans in Washington County. Destroyed two acres of cucumbers in Marion County; had to reseed. Numerous reports of its destructive character received from other western counties as far south as Jackson County.

Utah — I. M. Hawley (July 25): This insect has been reported as injurious to beans in Millard County. The soil is heavy and contains much organic matter. This pest is not often destructive in this State, yet it has been reported from this county three times in four years.

GARDEN SLUGS (Agriolimax agrestis L.)

Utah — I. M. Hawley (July 25): Destructive to beans in Millard County and in the gardens in and around Salt Lake City.

APHIDIDAE

Utah — George F. Knowlton (July 21): Truck crops generally were badly infested with aphids this spring, but these insects are found in much smaller numbers at the present time, although some cases of damage to tomatoes and beets are still found.

PALE-STRIPED FLEA BEETLE (Systena taeniata blanda Melsh.)

braska — M. H. Swenk (June 25-July 25): In Dawes County during the last week in June there was injury to garden truck by the pale-striped flea beetle.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

w York — C. R. Crosby and assistants: The usual amount of damage in Monroe County to potatoes by this insect is being caused this year.

rginia — Herbert Spencer (July 3): Potato beetles are somewhat more numerous than usual.

rth Carolina — F. Sherman (June 30): The potato beetle was worse than usual in the commercial early-potato fields in the eastern part of the State.

orida — E. W. Berger (July 8): On May 22, Mr. J. C. Goodwin, Nursery Inspector, reported observing Leptinotarsa decemlineata in abundance on weeds, including careless weed (Amaranthus sp.) at or near Grand Ridge.

diana — Harry F. Dietz (July 23): Throughout the whole southwestern section of the State the Colorado potato beetle has been unusually abundant.

sconsin — S. B. Fracker (July 10): Potato beetles seem to be normally abundant throughout the potato growing sections of this State. Beetles were mating in Clark County on June 26, and were rather abundant in a belt extending diagonally across the State from Polk County to Ozaukee County.

shington — Clipping from Yakima Herald (July 2): The beetles are found from one end of the county to the other. Some have been found in the Naches district and some have been reported from many other districts of the county.

"I am satisfied that the infestation in the Naches district has come through tourist travel," said Mr. Close. "There is no use in fooling ourselves concerning the control of the Colorado potato beetle. We can not now exterminate it or keep it exterminated in the county. The best we can do is to watch it closely and combat it and come as near annihilating it as possible."

POTATO LEAFHOPPER (Empoasca mali LeB.)

rginia — H. Spencer (July 3): We have had quite a severe outbreak of potato leafhoppers, causing considerable hopperburn, which we seldom encounter in this section. The damage came when the potatoes were rather mature, just a few weeks before the time of digging. No control measures were applied in this section (Norfolk) for the leafhoppers.

Ohio — T. H. Parks (July 25): The potato leafhopper continues to be the major potato insect pest in Ohio. The bulk of the commercial crop of late potatoes is planted too late to be damaged by the Colorado potato beetles but does not escape the leafhopper. Plenty of rains are helping the crop and the first Bordeaux spray has been applied by many growers.

Iowa — Carl J. Drake (July 9): The potato leafhopper is doing considerable damage to unsprayed potatoes in the State this year. It seems to be more abundant in the eastern portion of Iowa.

South Dakota — H. C. Severin (July 15): The potato leafhopper is general throughout the State on potatoes, but severe on Caragana.

A LEAFHOPPER (Empoasca fabae Harr.)

Indiana — C. R. Cleveland (July 20): Adults and first-brood nymphs began to be abundant on early potatoes at Lafayette June 24, an unusually early date for abundance of this insect in this locality, due apparently to hot dry weather in early June. Still abundant but has not increased greatly during July; apparently checked by recent wet weather.

Wisconsin — S. B. Fracker (July 10): Appeared on potato later than usual but hopperburn is now evident on early varieties at least at Sparta.

POTATO APHID (Illinoia solanifolii Ashm.)

Connecticut — W. E. Britton (July 24): Reported to me by A. E. Wilkinson, Vegetable Specialist, Extension Department, Storrs College, with statement that 100 acres were badly injured around Middletown, Stratford, Bridgeport, Westport, Trumbull; Windham, New London, and Tollan Counties were also reported.

New York — C. R. Crosby and assistants: In certain localities in Nassau Count the vines have been completely killed. In all localities the aphids present in large numbers.

Indiana — J. J. Davis (July 23): Abundant on potato at Schererville, July 13 Specimens not seen.

TOBACCO WORM (Protoparce quinquemaculata Haw.)

Indiana — Harry F. Dietz (July 23): The tomato sphingid was very abundant in the vicinity of Petersburg.

AUSTRALIAN TOMATO WEEVIL (Listroderes obliquus Gyll.)

GENERAL STATEMENT — J. E. Graf: The most recent survey carried on under the direction of the Office of Truck-Crop Insect Investigations, B. E., indicates the following distribution of this pest. In Louisiana it is recorded from Washington, Tangipahoa, Livingston, East Baton Rouge, St. Tammany, St. Helena, East Feliciana, and West Feliciana Parishes

In Alabama, Mobile, Clarke, Baldwin, Escambia, Washington, Covington, and Conecuh Counties. In Mississippi, Hancock, Jackson, Pike, Lamar, Adams, Greene, Harrison, Wayne, Walthall, Forest, Wilkinson, Covington, Stone, Lincoln, Marion, Pearl River, Lawrence, and Jones Counties, and in Florida, in Escambia and Walton Counties.

A NEW TOMATO WEEVIL (Listroderes apicalis Waterh.)

uisiana J. E. Graf: Recent Survey carried on under the direction of the Bureau of Entomology indicatesthat this pest is present in the following Parishes in Louisiana, Tangipahoa, St. Tammany, Livingston, St. Helena, and East Baton Rouge.

TOMATO WORM (Protoparce sexta Johan.)

liana Harry F. Dietz (July 23): The tomato sphingid was very abundant in the vicinity of Petersburg.

ssissippi Troy Thompson (July 9): The hornworm is scarcer at Waveland than I have ever observed it.

CORN EARWORM (Heliothis obsoleta Fab.)

ssissippi Troy Thompson (July 9): The tomato fruitworm is scarcer at Waveland than I have ever observed them.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

uisiana W. E. Hinds (July 22): We have had reports of southern green stink bugs attacking ripening tomatoes in very injurious numbers.

CARROT BEETLE (Ligyrus gibbosus DeG.)

nsas J. W. McColloch (July 10): Adults of this species were received from Hugoton with the information that they were thick around the roots of tomato plants and causing the plants to die.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

uisiana W. E. Hinds (July 22): We have had reports of leaf-footed plant bugs attacking ripening tomatoes in very injurious numbers.

GREEN PEACH APHID (Myzus persicae Sulz.)

liana C. R. Cleveland (July 20): A heavy invasion of winged migrants occurred on tomato at Lafayette beginning June 27, lasting for a week or ten days. Numerous wingless progeny began to develop at once, but the heavy rains of early July appear to have so thoroughly checked the infestation that at present only an occasional individual is to be found here and there. Extensive spread of mosaic in all fields observed occurred following the aphis invasion, the disease symptoms appearing about two weeks following the period

of greatest abundance of the aphis. This is the usual incubation period of the disease. We have experimentally demonstrated the ability of the species to transmit tomato mosaic, and it therefore appears most probable that the great degree of disease spread in this instance may be definitely traced to the heavy infestation by this aphis.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Indiana — J. J. Davis (July 23): Generally abundant. Reports received July 1 to 18 from all over the State.

Wisconsin — S. B. Fracker (July 10): At Oshkosh this insect was attacking cabbage. Abundance as compared with an average year seems to be less.

Utah — George F. Knowlton (July 21): Cabbage worms are causing considerable damage in localities where cabbage is not treated.

CABBAGE APHID (Brevicoryne brassicae L.)

New York — C. R. Crosby and assistants: The maturer plants in Nassau County seem to be able to withstand the attack of the lice very well but a large number of the younger plants are receiving serious injury. In Erie County it is quite abundant in certain plantings.

Indiana — J. J. Davis (July 23): Abundant at Leotto July 8 and at Richmond on July 16.

Illinois — W. P. Flint (July 20): This insect is abundant, according to C. C. Compton, in the northern part of the State. In some cases severe damage to cabbage has already resulted.

Utah — George F. Knowlton (July 2): The cabbage aphis is particularly numerous for this time of the year, and will probably be a serious pest this summer. (July 21): There is less damage from cabbage aphids than usual for this time of the year.

CABBAGE MAGGOT (Hylemyia brassicae Bouché)

New York — C. R. Crosby and assistants: In Wayne County severe damage was done to early plantings. Injury very severe throughout Onondaga County, while in Monroe County this pest is causing a good deal of damage this season.

Wisconsin — S. B. Fracker (July 10): Worse than usual, especially in southern counties. Very abundant at Madison.

HARLEQUIN BUG (*Murgantia histrionica* Hahn)

ississippi R. W. Harned (July 8): Occasional complaints are still being received in regard to the harlequin cabbage bug. This insect was reported as quite abundant on cabbage at Kreole, in Jackson County, on June 22.

ew Mexico J. R. Douglass (July 19): The harlequin cabbage bug has appeared in greater numbers at Estancia this season than since 1923.

STRAWBERRY

WHITE GRUBS (*Phyllophaga* spp.)

nsas J. W. McColloch (July 18): White grub injury to strawberries has been reported from Wellington and Clearwater during the last week.

GRAPE COLASPIS (*Colaspis brunnea* Fab.)

ndiana Harry F. Dietz (July 23): Perhaps the most notable insect pest of southern Indiana was one of the strawberry root worms, *Colaspis brunnea* Fab. Most of the strawberries examined in the southwestern part of the State looked as if they had been drilled with shot due to the feeding of the adults of this insect. Not only did this insect feed on strawberries but it was found to be feeding on beans, melons of various kinds, and grape.

STRAWBERRY LEAF ROLLER (*Ancylis comptana* Fröhl.)

ndiana J. J. Davis (July 23): Reported damaging strawberry at Borden, July 20.

ah George F. Knowlton (July 2): The strawberry leaf roller is doing slight damage to patches in Davis and Salt Lake Counties.

egon Don C. Mote (June 16): All leaves rolled, larvae nearing maturity, only 2 pupae observed. One four-acre 4-year-old patch 100 per cent infested, meaning every plant with one or more leaves attacked. Two smaller younger beds nearby 10 and 20 per cent infestation, respectively.

ASPARAGUS

ASPARAGUS BEETLE (*Crioceris asparagi* L.)

w York C. R. Crosby and assistants: Moderate infestation in Orange County was found in several plantings.

sconsin S. B. Fracker (July 10): At Waukesha and Milwaukee there was less than the usual amount of damage to asparagus.

Oregon — L. P. Rockwood (July 10): This is the first year we have collected this beetle here although it has been in other parts of the State for a few years past. Insects appear to have worked into this side valley, the Tuslatin Valley, about 5 years after their appearance in the main valley (Willamette).

BEANS

WIREWORMS (Elateridae)

California — Roy E. Campbell (July 1): Wireworms, Pheletes californicus, have caused considerable damage to beans, particularly limas, in parts of Orange and Ventura Counties.

A WHITE GRUB (Phyllophaga lanceolata Say)

New Mexico — J. R. Douglass (July 19): The adults of Phyllophaga lanceolata have been noted feeding on volunteer beans since June 28 in the foothills west of the Estancia Valley. Infestation light, no increase over last season.

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Virginia — Neale F. Howard (July 21): In the locality of McCoy, Montgomery County, this insect was reported.

North Carolina — Franklin Sherman (June 30): The complaints indicate it as worse than usual in our mountains, where it has been for several years. It is also causing much worry in the foothill section where this is the first year of injury.

Indiana — Neale F. Howard (July 21): Reported from Crawford, Dearborn, Harrison, Jennings, Orange, Ripley, Scott, Switzerland, and Washington Counties.

Harry F. Dietz (July 23): No heavy infestations of the Mexican bean beetle were found in the area that we covered. However, we found suspicious injury but no beetles at Tobinsport in Perry County. The counties in which this insect has been found in Indiana in destructive numbers are Clarke, Scott, Washington, Floyd, Crawford, and Orange. It will probably take in the whole southern quarter of the State next year.

J. J. Davis (July 23): First records, by county, in 1925 as follows: Harrison, June 24; Floyd, July 2; Crawford, July 3; Washington, July 7; Dearborn, July 8; Ripley, July 9; Jennings, July 11; Scott, July 11; Orange, July 18; Monroe, July 20; Fayette, July 22. Home garden beans are heavily infested and the adults of the second generation have migrated to the larger canning bean acreage. Considerable damage is anticipated.

labama J. M. Robinson (June 30): The Mexican bean beetle is doing its work in restricted territories, especially in the north-central and northeastern parts of the State.

PEAS

PEA APHID (Illinoia pisi Kalt.)

isconsin S. B. Fracker (July 10): This insect is reported from Barron, Outagamie, Columbia, and Dodge Counties. Compared with an average year it seems to be less abundant than usual.

tah George F. Knowlton (July 2): Pea aphids were more numerous this year than since 1923, owing apparently to the wet spring. They were damaging peas and alfalfa until the hot weather set in, and since then they are less abundant.

I. M. Hawley (July 25): This plant louse is common on alfalfa in the Uinta Basin. This is especially true where there is a heavy stand. It is not destructive at present. It has been found on canning factory peas in some places but no damage has been reported.

CUCUMBERS

PALE-STRIPED FLEA BEETLE (Systena taeniata blanda Melsh.)

owa Carl J. Drake (July 9): The small flea beetle Systena blanda Melsh. was very abundant on cucurbit plants in the vicinity of Ames during June.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

ew York C. R. Crosby and assistants: Extremely abundant in Wayne and Oswego Counties.

ndiana C. R. Cleveland (July 20): Appeared in highly injurious numbers on young cucumber and melon plants about June 15 at Lafayette. Infestation checked and plants efficiently protected by dusting with calcium arsenate and gypsum (1-20) and also equally well by dusting with arsenate of lead and hydrated lime (1-9).

J. J. Davis (July 23): Reports continuous since last report from all parts of the southern half of the State.

isconsin S. B. Fracker (July 10): Very troublesome and injurious as usual.

owa Carl J. Drake (July 9): The striped cucumber beetle has been very abundant in Iowa this year. Near Ames 250 adults were found on a single cucurbit plant. In the experimental fields check rows were entirely destroyed within 48 hours after the appearance of the beetle. Dusting with gypsum and calcium arsenate mixture and certain other dusts have given excellent results.

Nebraska — M. H. Swenk (June 25-July 25): Complaints of injury by the striped cucumber beetle have been subnormal in number this July.

Texas — O. G. Babcock (July 6): For the first time in at least five years the cucumber beetles have not amounted to anything. In some small melon patches not a single beetle is seen, whereas in past years they have been very common. The contrast is very striking.

MELONS

ONION THRIPS (*Thrips tabaci* L.)

Delaware — J. C. Adams (June-July): A thrips which Dr. Adams thinks is this species has been injuring watermelons considerably in certain localities.

WESTERN SPOTTED CUCUMBER BEETLE (*Diabrotica soror* Lec.)

California — T. D. Urbahns (July 2): In the Sacramento Valley adult beetles are emerging in unusual abundance apparently in grain and alfalfa fields and attacking ripe apricots and peaches. An apricot grower from Vacaville reports a total loss to this crop. Melons and beets and other crops are suffering considerable loss.

MELON APHID (*Aphis gossypii* Glov.)

Indiana — J. J. Davis (July 23): Many reports from all sections of the State were received from July 8 to 15.

Mississippi — Troy Thompson (July 9): The melon aphid is present in one field under my observation, otherwise this section (Hancock County and part of Pearl River County), so far as I know, is unusually free from this pest. The wilt disease of tomatoes is very bad all over this country. Some eggplants are dying from a disease or cause that is very similar to the trouble in the tomatoes.

Nebraska — M. H. Swenk (June 25-July 25): Complaints of injury by the melon aphid have been subnormal in number this July.

Texas — O. G. Babcock (July 6): Rather late appearing this year in Sonora but now very abundant and doing considerable damage. Natural enemies very few in numbers.

STRIPED CUCUMBER BEETLE (*Diabrotica vittata* Fab.)

New York — C. R. Crosby and assistants: Considerable damage in Erie County was caused in several localities by this insect.

SQUASH

SQUASH BUG (*Anasa tristis* DeG.)

ssachusetts — A. I. Bourne (July 24): We found the first eggs of the squash bug in the field on June 27 and 29. They have been reported as being present in large numbers in the Market Garden sections in the eastern part of the State.

ssissippi — R. W. Harned (July 8): Specimens have been received of the common squash bug during the last few days from Yalobusha and Monroe Counties. In both cases the complaints were in regard to their injury to melons.

braska — M. H. Swenk (June 25-July 25): The squash bug has caused fully the usual amount of trouble to cucurbit growers.

tah — I. M. Hawley (July 25): This old pest has been very common in southern Utah for several years. It is now becoming established in Weber, Boxelder, and Davis Counties in northern Utah. Last year some fields were entirely destroyed and it looks as though there would be some loss this year.

SQUASH BORER (*Melittia satyriniformis* Hbn.)

ssachusetts — A. I. Bourne (July 24): The moths of the squash vine borer have been observed in the field, but as yet it is too early to note any evidence of their injury.

ONIONS

LESSER ONION FLY (*Eumerus strigatus* Fall.)

w York — E. P. Felt (July 24): Recent collecting has shown this insect to be somewhat generally distributed in portions of the Hudson and Mohawk Valleys, the flies having been captured in the open at Saratoga, Amsterdam, Schenectady, Albany, Greenville, and Athens, in some cases at least no roots having been purchased locally for several years.

ONION MAGGOT (*Hylemyia antiqua* Meig.)

w York — C. R. Crosby and assistants: At Elba this insect is attacking onion and is serious on muck areas in this section. Injury is general and quite serious in Wayne and Oswego Counties.

diana — J. J. Davis (July 23): Reports of abundance in northern Indiana, especially Steuben County, June 27-July 16.

sconsin — S. B. Fracker (July 10): Apparently less troublesome than usual in southern part of the State; some damage in northern section.

Utah — I. M. Hawley (July 25): This pest was apparently introduced into Cache Valley about 1919 or 1920. It has been very destructive in parts of this region and now it has spread to Weber and Davis Counties. These counties are large producers of truck crops. Many onions are raised. There has been some loss this year.

ONION THRIPS (Thrips tabaci L.)

Utah — I. M. Hawley (July 25): The onion thrips were abundant in fields in Davis County on June 20. They have increased rapidly and where not treated have greatly damaged the crop.

A FLOWER BEETLE (Stilbus apicalis Melsh.)

Michigan — R. H. Pettit (July 24): A record has been received of what is apparently injury to onion roots in our Kent County muck-land and which seems to be a case of a new sort of trouble which is at present spreading in one field. The exact locality is Lowell, Michigan. The beetle, Stilbus apicalis Melsh., was identified by Dr. M. H. Hatch, who is stationed here for a time. The damage seems to consist in the eating off of roots of half grown onions by the adult beetles. The patch where the damage occurs is small and covers only a few square yards but it is steadily spreading and bids fair to become serious in this one field, at least. We have been trying out flake cyanide but have not yet received the report as to its value.

PEPPERS

PEPPER WEEVIL (Anthonomus eugenii Cano)

California — J. D. Elmore (July 7): On this date pepper weevils were collected (first occurrence this season) in a field of chili peppers in Orange County that was badly infested last year. It has been estimated that less than 1 per cent of the small buds are infested at this time. Almost mature larvae were found in small buds one-fourth inch in diameter.

BEETS

BANDED FLEA BEETLE (Systena taeniata Say)

Ohio — T. H. Parks (July 25): This insect made necessary the planting over of sugar-beets on some farms in northwestern Ohio. A dust of lime and arsenate of lead was used with apparent success by the Continental Sugar-beet Company.

SUGAR-BEET LEAFHOPPER (Eutettix tenellus Baker)

Utah — George F. Knowlton (July 2): The sugar-beet leafhopper (Eutettix tenellus Baker) is not damaging the beets noticeably so far this spring, only a few beets indicating leaf roll having been found so far.

SPINACH

SPINACH LEAF MINER (*Pegomyia hyoscyami* Panz.)

ew York — C. R. Crosby and assistants: In Oswego County a number of crops were rejected on account of this pest.

CARROTS

PARSLEY STALK WEEVIL (*Listronotus latiusculus* Boh.)

llinois — W. P. Flint (July 20): Adults of this insect have been bred from larvae taken in carrots in Clinton County. Severe damage is reported to carrots in one area of this county.

EGGPLANT

EGGPLANT LACEBUG (*Gargaphia solani* Heid.)

ississippi — R. W. Harned (July 8): On June 29 a complaint accompanied by specimens of the eggplant lacebug, *Gargaphia solani*, was received from a correspondent from Prairie, in Monroe County. Judging from the abundance of these insects on the leaves received, they were probably causing considerable damage to eggplants at that point.

HOPS

HOP APHID (*Phorodon humuli* Schrank)

regon — Don C. Mote (June 16): Winged migrants, adults, and immature wingless females on leaves in the Willamette Valley have been reported. Some growers have already started spraying operations; others are making preparations.

RADISH

CABBAGE MAGGOT (*Hylemyia brassicae* Bouché)

outh Dakota — H. C. Severin (July 20): An unusually early and severe attack of radish maggots occurred in eastern South Dakota this spring.

SWEET POTATOES

TORTOISE BEETLES (Cassidinae)

ndiana — J. J. Davis (July 23): Tortoise beetle larvae reported injuring sweet potatoes at Cannelton, July 1, and Vincennes, July 7.

ississippi — R. W. Harned (July 8): Specimens of tortoise beetles identified as *Jonthonota nigripes* Oliv. and *Metriona bivittata* Say have been received from Columbus in Lowndes County, where they were reported as damaging sweet potatoes; specimens identified as *Chelymorpha cassidea* Fab., as damaging sweet potatoes at Shannon in Lee County.

SOUTHERN FIELD-CROP INSECTS

COTTON

BOLL WEEVIL (*Anthonomus grandis* Boh.)

GENERAL STATEMENT

Cooperative report on status of boll weevil and other cotton insects as of July 15, Delta Laboratory, Tallulah, La.

Weevil infestations continue exceedingly "spotted" over the cottonbbelt. In central and northern Texas the infestation is generally light and scattered whereas in a few of the southern counties higher infestations are reported. Infestations are exceedingly light throughout Arkansas and Tennessee. In northern Louisiana weevil infestations are generally light with occasional spots of severe injury, while in southern Louisiana high infestations prevail generally with considerable injury. Some weevil injury has been reported in the Delta Section of Mississippi with generally low infestations in other portions of the State. Alabama and Georgia have generally light and "spotted" infestations in the northern portions with somewhat heavier infestations in the southern portions. Generally light infestations have been reported in the western sections of SouthbCarolina and North Carolina and considerable weevil injury in the eastern section of South Carolina and southeastern section of North Carolina.

North Carolina

F. Sherman (June 30): Specific complaints of boll weevil damage are less than in former years, yet our field workers report that the invasion of fields by hibernated weevils was greater than we have heretofore experienced, especially in the southeastern part of our cotton area - - much less evidence of them in the higher (Piedmont) section. In the east and southeast they have been found as numerous as 300 to 400 hibernated weevils per acre.

Georgia

J. F. Jackson (July 9): In our Survey conducted in 14 counties in a strip extending across Georgia from Burke County on the east to Muscogee and Early Counties on the west we find the percentage of squares infested to be extremely uneven, varying from no infestation to 26.8 per cent with an average of about 0.5 per cent in the eastern part of the State and from 1.8 per cent to 54.0 per cent in the western part of the State, averaging over 20.0 per cent.

Alabama

J. M. Robinson (June 30): Boll weevils have appeared in larger numbers than last year.

J. F. Jackson (July 11): In our survey conducted in 8 counties in the southeastern corner of Alabama extending from Lee to Covington Counties we find the percentage of squares punctured to range from less than 1 per cent to over 16 per cent with an average of 9 per cent punctured.

Mississippi

R. W. Harned (July 8): Boll weevils are still scarce in Mississippi.

Clay Lyle (July 21): The most "spotted" condition of boll weevil infestation I have ever seen at this time of year, is the statement of R. W. Harned, Entomologist of the State Plant Board, after receiving reports from 196 farms in 25 Mississippi counties during the past week. Weevils are apparently most numerous through the central part of the State and in certain localities of the Delta, though many farms in these sections still report no infestation. In the southwestern corner of the State, as well as in the extreme northern counties, few weevils have been found, and there is apparently no immediate necessity for poisoning on most farms in these two sections.

Missouri — L. Haseman (July 24): No reports as yet have been received of the actual work of the boll weevil in any of the cotton sections of the State.

Arkansas — Dwight Isely (July 15): Boll weevil infestation this year has been confined to restricted areas thus far. Severe damage has occurred in only a few places. From present prospects, the boll weevil injury during the present year should be the lightest which has occurred in Arkansas since the insect has been generally distributed over the State.

Louisiana — W. E. Hinds (July 22): Boll weevil multiplication is occurring very rapidly at this time and reaching complete infestation in many fields. There has been practically no natural control in the central and southern part of the State, but the drought has continued this season, also, in northern and western Louisiana.

A BOLL WEEVIL (var. near Anthonomus grandis thurberiae Pierce)

Mexico — A. W. Morrill (July 23): In the Yaqui Valley intensive control measures, including fumigation of cotton seed, dusting volunteer cotton plants with calcium arsenate, and hand picking of squares from and under infested volunteer plants, has reduced weevils so that a total of 15 hours' examination of volunteer and seedling cotton July 16 to 18 resulted in finding no trace of the insects. Last year weevil damage amounted to not less than a third bale per acre. This season it will apparently not be appreciable in the Yaqui Valley.

THRIPS (Thysanoptera)

North — F. Sherman (June 30): Several sendlings of stunted cotton plants, with crimped leaves, have been received. In two cases a yellowish thrips was found but we are not convinced that it was a primary factor. Dr. Wolf (Pathologist) says the plant resembled the "Crazy Cotton" condition described a year or so ago by Dr. Cook.

Correction — In Volume 5, No. 4, page 199, the saltmarsh caterpillar (Estigmene acraea Drury) credited to R. W. Harned, should be Apantesis cithona Stkr.

BEAN THRIPS (Heliothrips fasciatus Perg.)

Mexico — A. W. Morrill (July 23): This pest, previously reported as unusually abundant on peas and cantaloupes in the Yaqui Valley, is now working on cotton. While a large percentage of the lower leaves on plants is more or less affected, the actual damage to the crop is not yet appreciable. Abundance of adults depositing eggs on new leaves threatens considerable damage within 60 days.

A SMALL BUG (Geocoris punctipes Say)

Georgia — Haliard De La Parelle (July 3): I am sending some specimens of what we have been calling the false chinch bug. These were taken in a cotton patch near Atlanta. The owner of this patch reports typical cotton flea injury, but he did not find the flea and I been wondering if it is possible that this insect does the same sort of injury to the plant as the cotton flea. Determination of this insect made by Mr. McAtee.

CORN SILK BEETLE (Luperodes varicornis Lec.)

Alabama — R. W. Harned (June 30): Have received quite a number of complaints in regard to the damage that these insects are causing. Most of the complaints have come from across the line in Alabama. I have been informed by farmers in Alabama that some of these beetles were sent to Auburn where they were identified as Luperodes davisi Leng. During the past few days we have carefully investigated the situation in Lamar County. We found that the farmers were unduly alarmed in regard to these insects. Some of them had the idea that their crops would be completely destroyed. These beetles are doing some damage to different kinds of plants, but the damage that is being done by the beetles there is not as serious as that being caused by the drought. These insects are most abundant on corn where they feed especially on the silk. Although more abundant on corn than cotton, their damage to cotton seems to be as great, if not greater, that the damage to corn. On cotton the beetles made holes in the leaves, gnawing the leaf petioles and girdling the twigs. They were also found causing damage to sweet gum trees. It was reported to us that they occurred in large numbers on various other crops and plants,

J. M. Robinson (June 30): Luperodes, probably davisi has been attacking chestnut and gum trees, and spreading from them to cotton and corn. When they get on the corn they either destroy the tassels or the corn silks. In attacking the cotton they destroy the foliage. In one locality they are continuing to spread over the cotton covering several acres. These insects have been

sent in from Wilsonville, Shelby County, Tuscaloosa, Tuscaloosa County, and Vernon, Lamar County.

ississippi R. W. Harned (June 30): A number of complaints in regard to the damage that these insects are causing have been received. Some of the complaints have come from the eastern part of Lowndes County. Under date of June 27 the county agent at Purvis, Lamar County, sent us a number of these insects with the statement that they are causing considerable damage to cotton and corn in one field. He writes: "The insect will eat and sting the plant, causing the foliage to die where it has been stung." (July 8): Complaints in regard to these beetles from several different places in the State have been received. They are reported as damaging cotton, corn, and various other plants. Determination made by H. S. Barber 7/14/25 with the following statement: "Luperodes brunneus Crotch which appears wrongly listed as a synonym of varicornis Lec. in the Leng List." (July 20): Specimens from Holcut, Tishomingo County, and Leesdale, Adams County, have been received, with statement that injury has been to cotton chiefly. (July 25): On July 6, specimens of Luperodes brunneus were received from Holcut in Tishomingo County where they were reported as causing serious damage to leaves and squares of cotton plants.

GARDEN WEBWORM (Loxostege similalis Guen.)

exas W. A. Baker (July 1): Along the entire route traveled I found only one cotton field that was infested with the garden webworm and which, from reports I have heard, is showing up in considerable numbers in western Texas.

COTTON FLEA (Psallus seriatus Reut.)

eorgia Haliard De La Parelle (July 3): The insect known as the cotton flea, which I believe is Psallus seriatus (Reut.), has appeared in the State of Georgia, doing considerable damage to Americus and Winder.

ississippi R. W. Harned (July 29): The cotton flea, Psallus seriatus, was collected by D. W. Grimes on July 12 on cotton 2½ miles south of Greenville and on July 13 on cotton growing 2 miles north of Leland. Both of these places are in Washington County. In regard to the first field Mr. Grimes wrote: "Plants shedding squares and young bolls. Squares look to be sapped by sucking insect. Some plants with practically no limbs and little fruit." In regard to the second field he wrote as follows: "Some stalks tall and not fruiting well. Leafhoppers and green bugs flying from cotton. Collected one small green plant bug."

The insects collected from these fields were identified by Dr. H. H. Knight, of the Iowa State College, as Psallus seriatus. This is the first definite record that we have of the occurrence of this insect in this State. It is of interest that Mr. Grimes noted the injury to cotton that has been described by Dr. Hunter before he collected the insects.

Georgia — Cooperative report on cotton insects as of July 15): Athens, July 1, Letter from Mr. Frank Ward to Dr. W. D. Hunter. "Before this date considerable hopper injury was indicated. However, this week in the several fields inspected cotton has begun to retain squares and show more nearly normal growth. Last year it was some 3 weeks later than this when the plants began to retain some of their fruit."

South Carolina — Clemson College, July 18, F. H. Lathrop. Hopper damage light and scattered.

Louisiana — Tallulah, July 15, Dr. J. W. Folsom. Hoppers common on cotton, with no apparent injury to the plants.

Texas — Houston, Dr. W. D. Hunter. The cotton hopper is much less abundant in Texas this year than for several seasons. It is attracting practically no attention.
McAllen, July 4, Mr. L. G. Plyler. Cotton hoppers have been found in several fields but apparently have done only slight damage. We h heard no complaints.

W. A. Baker (July 1): The U. S. Experiment Farm at Greenville is reporting a heavy infestation of the so-called "cotton flea", the plants already shedding many of their small squares.

RED SPIDER (Tetranychus telarius L.)

Cooperative report on cotton insects as of July 15 :

Alabama — Auburn, July 19, Mr. J. M. Robinson. The red spider is appearing in various places in the State.

North Carolina — Raleigh, July 18, Mr. Franklin Sherman: Complaints of the red spider have been received, but not generally over the State.

Missouri — L. Haseman (July 24): The cotton red spider has been unusually injurious in southeastern Missouri, but during the last half of July the pest showed signs of clearing up.

Arkansas — Dwight Isley (July 15): The red spider on cotton has been reported from or observed in St. Francis, Craighead, Lee, Faulkner, and Miller Counties. Conditions are favorable this year for serious outbreaks.

COTTON SQUARE BORER (Uranotes melinus Hbn.)

Texas — L. G. Plyler (July 14): The square borer has been found in one or two fields of young cotton in McAllen but not in sufficient numbers to do heavy damage.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

Mexico — A. W. Morrill (July 23): For the first time during the past three years this insect has become noticeably abundant in cotton fields in the Yaqui Valley. Infestation generally not injurious up to July 18, average about one caterpillar per cotton plant. Three or

four acres adjoining alfalfa field from which a migration of caterpillars occurred suffered to extent of 85 to 90 per cent of foliage.

BOLL WORM (Heliothis obsoleta Fab.)

Mexico — A. W. Morrill (July 23): Following two seasons during which the bollworm has been practically absent from cotton fields in the Yaqui Valley this insect has shown possibilities of doing considerable damage this season unless controlled by poisoning. Upto July 20 damage practically confined to squares. Examination of 100 squares from five different sections of a 230-acre field showed infestation ranging from 1 to 8 per cent, so far with indications of continued increase during next three weeks.

COTTON APHID (Aphis gossypii Glov.)

North Carolina — F. Sherman (June 30): Several complaints, but sendings show the lady beetle Hyperaspis convergens Guer. and also hymenopterous parasites to be active against it.

Kentucky — H. Garman (July 9): The cotton plant louse is rather common in the southwestern counties of the State, where cotton is now being grown. Several reports with specimens have been sent to me in the past two weeks.

Missouri — L. Haseman (July 24): The cotton louse attracted a great deal of attention during the fore part of the month, but parasites and predacious enemies have largely cleaned up the infestation.

GENERAL STATEMENT — Cooperative Report on Cotton Insects (July 15):

Trenton, Tenn., July 3, Mr. L. H. Halton, County agent. Lice ruining hundreds of acres of cotton in Gibson County.

Tallulah, La., July 15, Dr. J. W. Folsom. Infestations have been widespread but not heavy, except locally. Heavy infestations have been induced in experimental plats by excessive applications of calcium arsenate. The heavy infestations were, however, greatly reduced by rain on July 14 accompanied by a strong wind.

Florence, S. C. July 15, R. W. Moreland. Lice have been present in only one field of calcium-arsenate-dusted cotton and the last observation showed that parasites had the lice under control.

College Station, Tex., July 16, Dr. F. L. Thomas. Lice have been reported as injurious in northern and northwestern Texas. Reports have been received from Floyd, Lubbock, Dickens, Howard, Callahan, and Ward Counties.

Baton Rouge, La., July 17, Dr. W. E. Hinds. Lice increasing very rapidly where 3 applications of calcium arsenate have been given rank cotton.

Auburn, Ala. July 19, Mr. J. M. Robinson. Lice causing much attention in widely distributed portions of State. Infestations varying from 0 to 100 per cent.

Clemson College, S. C. July 18, F. H. Lathrop. Lice injury serious in many fields that have been dusted with calcium arsenate in the coastal plain section.

Raleigh, N. C. July 18, Mr. Franklin Sherman. A few complaints of lice have been received.

Louisiana — W. E. Hinds (July 22): Cotton plant lice are increasing very rapidly and especially in areas which have been dusted for weevil control. We are finding that it is easily possible to control these plant lice by using calcium arsenate, 94 parts, by weight, as the carrier for 6 parts of nicotine sulphate and applying this mixture in the late evening when the air is still and warm, using the same machinery that would be used for weevil control work but with a rather heavy application, 8 or 9 pounds per acre of the dust mixture. The cost of plant louse control additional to the weevil control work is only about 75 cents per acre and one application is, we believe, all that will be necessary during the season. In many of our experiments better than 98 per cent control of the lice has been secured by this method of treatement.

Texas — W. A. Baker (July 1): In this section (Dallas) the lice were present on cotton to a considerable extent up until about two weeks ago. At this time they are fast leaving the fields and very few fields suffered serious damage from their effects. A peculiar fact about the lice this year was that, in spite of the droughty conditions of the country, they were still working on the plants for about three weeks after the time it is usually considered that lice have done their damage and disappeared.

COTTON LEAF WORM (Alabama argillacea Hbn.)

GENERAL STATEMENT — Telegram from B. R. Coad (July 31): Leafworm outbreak general throughout Louisiana, with strong probability that infestation is scattered throughout Mississippi and Arkansas. Demand for poison quite general and sudden.

Louisiana — W. E. Hinds (July 13): Empty pupal cases of the leafworm have been found. (July 22): The cotton leafworm occurs at Baton Rouge but in very small numbers. I am expecting several reports of stripping of cotton in this State before August 10.

Texas — Cooperative Report On Cotton Insects (July 15):
R. A. Epperson (July 11): On the Mexican side of the Rio Grande near Eagle Pass leafworms are doing considerable damage in some fields and in others very few larvae can be found.
L. G. Plyler (July 4): Leafworms appeared about June 25 and now over 50 per cent of the fields near McAllen and Hidalgo on the river are infested.
Dr. F. L. Thomas (July 16): Paris green and calcium arsenate are still being applied for the leafworm in the areas where the original infestations occurred.

Haiti — G. N. Wolcott (June 23): Further regarding Alabama in Haiti, I have just learned that the ants which were so effective in destroying the prepupae were Monomorium destructor Jer., as determined by Dr. Mann. This ant has undoubtedly been introduced into Haiti rather recently as it is not listed by Wheeler and Mann, and is now present not only in Port-au-Prince itself, but at least 15 or 20 miles in

each direction, the farthest south being at Trouin, beyond Leogane (a determination by a Mr. Smith at Illinois), and also at Cape Haitian on the north coast. This record is from the Federal Horticultural Board, an inspector of which held up a shipment of pineapples from this port because of its being infested with ants. The outbreak of Alabama which I reported may have been preceded by a previous generation in the same fields, but the manager of the plantation had not noted it. The exceptional character of it was that it occurred in the spring; for, so far as we know, outbreaks always have occurred in the fall as far back as people in Haiti remember. This is quite different from the conditions in Porto Rico, where my observations are that some years there are no Alabama at all and sometimes none for two or three years, or possibly longer.

TOBACCO

POTATO TUBER WORM (*Phthorimaea operculella* Zell.)

Florida — F. S. Chamberlin (July 13): At Quincy a very few split worm larvae have been observed in tobacco fields the past few days. So far the infestation is of no economic importance.

TOMATO WORM (*Protoparce sexta* Joh.)

Florida — F. S. Chamberlin (July 21): At Quincy the infestation during the month of July was much less than usual.

SUGARCANE

SUGARCANE BORER (*Diatraea saccharalis* Fab.)

Louisiana — T. E. Holloway and W. E. Haley (June 30): On sugar plantations within 40 miles of New Orleans the writers found the infestation by the sugarcane moth borer to be slight in general.

AN APHID (*Sipha flava* Forbes)

Porto Rico — Arthur H. Rosenfeld (July 9): While on the north coast the attacks of this aphid in damaging numbers are confined almost exclusively to Uba under the drier conditions of the irrigated south coast region; while Uba is still the decidedly preferred host, some damage is also seen frequently on the broad-leaved high-sucrose canes, particularly the popular Barbados Hybrid 10 (12).

WEST INDIAN CANE LEAFHOPPER (*Saccharasydne* (*Delphax*) *saccharivora* Westw.)

Haiti — Geo. N. Wolcott (June 23): Last January my attention was directed to a field of cane near Leogane which was so heavily infested with the West Indian cane leafhopper (fulgorid) *Saccharosydne* (*Delphax*) *saccharivora* Westwood, that the cane was considerably stunted. After the cane was harvested, the young ratoons were only

slightly infested but in March the manager again brought me out to look at the conditions. The infestation was much more severe and had spread to adjoining fields. A few days later I demonstrated on a few stools of cane how easily the nymphs and adults could be killed with calcium cyanide dust. However, the manager was afraid he might also kill some Haitians, which would be an expensive matter, and nothing was done in the way of control. About a month ago I visited the field and found that the infestation had almost disappeared, so much so indeed that the class demonstration that I had planned was not an entire success. More recently the manager reports the insects all gone, or at least so nearly gone as to be causing no damage.

FOREST AND SHADE-TREE INSECTS

GENERAL FEEDERS

A BEE (*Megachile perbrevis* Cresson)

Georgia — Haliard De La Parelle (July 3): I am sending specimens of one of the carpenter bees which I believe is Megachile sp. These bees came to Georgia in a shipment of red wood shingles from somewhere in the West. They were sent to this office by Dr. H. P. Stuckey, Director of the Experiment Station, Experiment, Ga. (Identified as *Megachile perbrevis* Cresson by S. A. Rohwer.)

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

California — L. O. Haupt (July 6): The cottony cushion scale has shown up abundantly on ornamental trees in Hanford, doing severe damage to maples. Some control measures consisting of oil sprays have been used on smaller ornamentals. No attempt has been made to control it on maples except for the introduction of parasitic and predacious insects.

PERIODICAL CICADA (*Tibicina septendecim* L.)

Louisiana — W. E. Hinds (July 22): With reference to the possible appearance of the periodical cicada in Morehouse Parish, I would say that I did not see specimens and am not positive as to the identificati of the species. Professor Harned has written raising a question relative thereto and stating that in Mississippi he has found only another species attacking cotton and believes that such species, *Tibicen ?ventripennis* Say is the one responsible for the attack on cotton, associated in the report to us with the periodical cicada.

GIPSY MOTH (*Porthetria dispar* L.)

Massachusetts — A. I. Bourne (July 24): Mr. Lacroix, of the Cranberry Substation, reports, under date of the 15th, serious injury to cranberries by gipsy moths in isolated localities in the towns of Harwich, Dennis, Brewster, and Falmouth. He also

notes considerable stripping in the woods of the towns in that immediate region. He reports noting numbers of male gypsy moths in flight between Woods Hole and Falmouth on July 19.

Monthly News Letter, Bureau of Entomology, No.133 (May): Parasetigena segregata Rond., one of the European tachinid parasites of the gypsy moth, which was obtained from several parts of Europe last summer, hibernated successfully in the hibernating cages in the laboratory yard at Melrose Highlands. Seven strong colonies of adults, each containing over 1,000 fertilized females, have been liberated in the moth-infested area of New England this spring.

Monthly Letter, Bureau of Entomology, No. 133 (May): The spring colonization of Anastatus bifasciatus Fonsc. is practically complete, nearly 2,500,000 parasites having been colonized.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S.& A.)

New York — E. P. Felt (July 24): R. E. Horsey reports that the white-marked tussock moth has been more numerous at Rochester than for several years past.

Nebraska — M. H. Swenk (June 25-July 25): The white-marked tussock moth continued to cause annoyance and injury to trees and shrubs during the first two weeks in July.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Indiana — H. F. Dietz (July 23): The forest tent caterpillar is quite common in Martin County in the vicinity of Burns City.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Indiana — J. J. Davis (July 23): Abundant in Jennings, Scott, and Jefferson Counties, defoliating arborvitae, maple, and other shade trees, June 23 to July 16.

H. F. Dietz (July 23): The bagworm moth is exceedingly common throughout the southwestern part of the State, heavy infestations having been noted at Burns City, Princeton, Evansville, and Terre Haute. This pest is exceedingly abundant also in Indianapolis. Shade trees, such as various maples, boxelder, and evergreens, are suffering most from its attack.

Mississippi — R. W. Harned (July 8): Specimens of the bagworm were received from Rosedale on June 25, where they were reported as seriously damaging arborvitae. Specimens that were damaging arborvitae were also received on June 23 from Dunleith.

Kansas — J. W. McColloch (July 20): The following reports have been received during the past month: At Topeka, defoliation of

shade trees; Kansas City, defoliation of boxelder; Rossville, defoliation of boxelder; and Corbin, injury to evergreens.

FALL WEBWORM (Hyphantria cunea Drury)

Massachusetts A. I. Bourne (July 24): We noted the first beginning of the webs of the fall webworm on the 18th to the 20th of this month.

Indiana H. F. Dietz (July 23): Quite common in Martin County in the vicinity of Burns City.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

New York M. D. Leonard (June 26): Infested arborvitae twigs were received from Saratoga Springs.

Wisconsin S. B. Fracker (July 10): Slight damage to arborvitae at Milwaukee.

North Carolina F. Sherman (June 30): One complaint of "spider-mites" from a nursery. Complaint of this is unusual with us.

BIRCH

BIRCH LEAF MINER (Fenusa pumila Klug)

Massachusetts A. I. Bourne (July 24): We have been noting the injury caused by the birch leaf miner to be very generally distributed throughout the length of the State. Even in the higher sections the injury is very noticeable.

J. V. Schaffner, Jr. (July 25): A birch leaf miner (sawfly), probably Fenusa pumila Klug, is working on gray birch sprouts throughout eastern Massachusetts. We have reports as far northwest as Ipswich.

Connecticut W. E. Britton (July 24): Chiefly on Betula populifolia, but occasionally on European cut leaf and native paper birch. Two broods of larvae have already mined the leaves at New Haven, Hamden, and Wallingford.

New York E. P. Felt (July 24): The birch leaf miner is abundant on gray birch from Glens Falls, south nearly to New York City, and west into the Catskills, many of the trees at the present time with such a proportion of the leaves browned by the mining that they have a brownish cast when seen from a distance. The first generation completed its transformations the very last of June or early in July, since adults, eggs, and young larvae were observed July 9. Breeding is known to occur until into early fall.

BOXELDER

BOXELDER BUG (*Leptocoris trivittatus* Say)

Indiana — J. J. Davis (July 23): Boxelder plant bugs abundant at Plymouth. All stages of nymphs and adults sent in.

Utah — George F. Knowlton (July 21): Boxelder plant bugs are present in great numbers, as always, sometimes getting into houses in such numbers as to be a pest.

BOXELDER APHID (*Periphyllus negundinis* Thos.)

Utah — George F. Knowlton (July 2): The boxelder aphid is abundant and the leaves on the trees are sticky and often moldy. (July 21): Damage from the boxelder aphid is much less serious now than earlier in the season.

CATALPA

CATALPA SPHINX (*Ceratomia catalpae* Boisd.)

Ohio — E. W. Mendenhall (July 18): I find great damage to catalpa trees in Knox County by the catalpa sphinx moth, especially in the nurseries. This can be easily controlled by spraying with arsenate of lead.

Indiana — H. F. Dietz (July 23): No widespread infestations of the catalpa sphinx were noted. At Evansville and Washington, however, local outbreaks were observed.

ELM

ELM COCKSCOMB GALL (*Colopha ulmicola* Fitch)

New York — E. P. Felt (July 24): The cockscomb elm gall has been common and disfigured the foliage of American elm at Rock Beach, Lake Ontario, near Rochester, according to T. Maloy.

Indiana — J. J. Davis (July 23): During the past month we have received the gall of this insect from all sections of the State.

Wisconsin — S. B. Fracker (July 10): Two requests for information were received from Beloit and Waukesha.

Utah — Geo. F. Knowlton (July 2): The elm cockscomb gall aphid is doing slight damage to elms at Providence.

EUROPEAN ELM SCALE (*Gossyparia spuria* Modeer)

New York — E. P. Felt (July 24): A slight infestation at Highland Park has been reported by R. E. Horsey. This scale has not attracted notice in the vicinity of Albany.

Wisconsin — S. B. Fracker (July 10): A number of street trees were killed or weakened at Madison. Some were protected by oil spray in April, others by washing scales off with fire hose in June while young were active. Both measures tried were apparently successful.

WOOLLY ELM APHID (Eriosoma americanum Riley)

Utah — Geo. F. Knowlton (July 2): Eriosoma americanum Riley, is doing much more damage by rolling the leaves.

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

Connecticut — W. E. Britton (July 24): Trees now showing brown in many parts of the State; Windsor, Cheshire, and New Haven.

New York — E. P. Felt (July 24): The elm leaf beetle appears to be increasing in Rochester, there being one bad infestation on street trees, and for the first time all the elms in Highland Park were sprayed for this pest, according to report of R. E. Horsey. The insect is generally distributed in the eastern part of the State and here and there in the Hudson Valley has caused rather severe damage to individual trees or groups of trees, the destruction of the foliage apparently being closely related to near-by buildings or other structures affording excellent winter shelter.

Oregon — J. Wilcox (July 3): Larvae of the second generation are just outcrn trees at Corvallis. Some larvae are as large as three-dixteenths of an inch long.

California — F. P. Roullard (July 7): Spread has become general this season at Fresno and vicinity. Found in many new localities of the county. Several towns are spraying the trees.

HEMLOCK

EVERGREEN SPANWORM (Thera contractata Pack.)

New York — E. P. Felt (July 24): Evergreen spanworm larvae, provisionally identified as this species, were abundant on a hemlock hedge at Rhinebeck under conditions which suggested severe injury earlier.

JUNIPER

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

New York — E. P. Felt (June 30): The juniper webworm appears to be unusually abundant in the lower Hudson Valley, there being several reports of injury from localities south of Poughkeepsie. Adults are

appearing at the present time. (July 24): The Juniper webworm has occasioned several complaints on account of its feeding upon and webbing together the foliage of ornamentals in the lower Hudson Valley.

LOCUST

LOCUST LEAF MINER (*Chalepus dorsalis* Thunb.)

Maryland — J. A. Hyslop (July 30): This insect is again browning the locust trees in eastern Maryland and northern Virginia.

Ohio — E. W. Mendenhall (July 21): I find the yellow blotch miner on both surfaces of the leaves. I find this damage to the locust in the southern half of the State.

BASSWOOD

EUROPEAN FRUIT LECANIUM (*Lecanium corni* Bouche)

New York — C. R. Crosby (June 11): Specimens of basswood received from Cazenovia. All basswoods in vicinity seem to be infested.

MAPLE

COTTONY MAPLE SCALE (*Pulvinaria innumerabilis* Rathv.)

Connecticut — W. E. Britton (July 24): Two samples received from Hartford.

New Jersey — R. B. Lott (July 24): This scale has been noted in the vicinity of the city of Elizabeth, where considerable damage has been done, in some cases causing death of tree. Undersides of limbs of trees along some streets are literally covered with scales and the cottony mass is, in some cases, an inch thick.

North Carolina — F. Sherman (June 30): Several complaints received.

Alabama — J. M. Robinson (June 30): The cottony maple scale has been causing considerable attention pretty generally over the State where maples are prized as shade trees.

Indiana — "Chicago American" (July 6): Thousands of shade trees in Wabash and near-by cities and towns are being badly damaged and a number have been killed by the maple scale, according to the county agricultural agent.

J. J. Davis (July 23): I continue to receive inquiries and reports of abundance, especially from northern Indiana.

Wisconsin — S. B. Fracker (June 13): Some specimens of bittersweet, maple, and elm were received from Madison. Damage is not serious.

ORIENTAL MOTH (Cnidocampa flavescens Walk.)

Massachusetts — J. V. Schaffner Jr. (July 25): Eggs and first and second stage larvae were observed in Roxbury and Dorchester sections of Boston on July 23. The greatest amount of feeding was on Norway and sycamore maples located in vacant lots and back yards. Infestation was heavy in two restricted localities visited.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio — E. W. Mendenhall (July 27): The bagworm is very bad on maple and other shade trees in Columbus and they are doing great damage to our shade.

MAPLE PHENACOCCUS (Phenacoccus acericola King)

Indiana — J. J. Davis (July 24): Killing foliage of either hard or Norway maple at Salem.

SILVER MAPLE LEAF MITE (Phyllocoptes quadripes Shim.)

New York — M. D. Leonard (June 17): Many trees infested at Nassau.

Wisconsin — S. B. Fracker (July 10): Fewer specimens received than usual from Two Rivers.

GOUTY VEIN GALL (Dasyneura communis Felt)

Indiana — J. J. Davis (July 23): This gall on hard maple was sent in from Washington, Ind., July 18. It agrees with this species, according to Felt's latest catalogue of gall insects. Galls had opened and all insects had left when received.

OAK

OAK LECANIUM (Lecanium quercifex Fitch)

Alabama — J. M. Robinson (June 30): Lecanium quercifex on water oaks has been attracting attention. The young hatched in the first few days of June.

KERMES SP.

Mississippi — R. W. Harned (July 8): From all sections of the State more complaints than usual have been received in regard to scale insects belonging to the genus Kermes on oak trees. The damage to the oak trees is probably a combination of the exceedingly long drought we have had, together with the attacks of the scale insects. The scale insects, we believe

are getting more credit for the damage than they deserve. People find their trees dying and upon examination find a few of these scales, and give them all of the blame for the condition of their trees.

PINE

INTRODUCED PINE SAWFLY (Diprion simile Hartig)

ew York E. P. Felt (July 24): The European pine sawfly was reported from Seneca Park, Rochester, by R. E. Horsey, though causing no serious injury. There was a bad infestation last September in Highland Park, Rochester.

WHITE-PINE WEEVIL (Pissodes strobi Peck)

ew York E. P. Felt (July 24): The white-pine weevil has been increasing in numbers in the large pine planting around Tomhannock Reservoir, City of Troy, and this season has killed 75 to 90 per cent of the leading shoots in restricted areas. The damage has been so marked that the city has 16 men cutting out and burning the affected shoots.

COLASPIS SP.

ississippi R. W. Harned (July 9): I have received specimens of these beetles that we think belong to the genus Colaspis from several correspondents. On June 24 Troy Thompson, Waveland, wrote as follows: "Under separate cover I am mailing a pine tree. The dying condition you will notice in the terminal straw is typical of hundreds of thousands of trees in Hancock County. I have made a rough survey of the territory covered and find it general over the western half of Hancock County. Yesterday I observed light infestations as high as Picayune. The territory from Waveland west on the Pearlington road to within a mile or so of Pearlington is the worst hit of any I have observed so far. However, coming back across the north end of the county I find heavy damage also, so I take it that it is general throughout this stretch. I am confident that fully 75 per cent of the young trees in this section are dying, and believe that by fall none will be left. So far the damage is mostly in young trees, but I find that in lots of places even the largest timber is beginning to turn red from the top down. So far I find very little damage along the Pearl River."

Troy Thompson (July 9): There is a chrysomelid beetle that is playing havoc with the foliage of the young pine trees in Hancock County and the part of Pearl River County that I have seen. There are acres and acres of these young pines that look like they are dead. On close examination I find that the beetles works on the needles near the shuck that joins it to the branch

but does not completely sever it.

Louisiana — Wm. Middleton (June 30): Mr. Graf gave me some chrysomelid beetles sent in by Chas. E. Smith from the neighborhood of Ponchatoula and Madisonville. Smith states that the beetles are doing severe injury to pines in that locality by eating the needles. Small saplings were most severely infested. The beetles appears to be one on which we have several previous reports, i.e., Colaspis brunnea Fab., and Fisher thinks it is probably var. costipennis. Chittenden also tells me that it is Colaspis brunnea and any varietal determination would require larval studies.

PINE BARK LOUSE (Chermes pinicorticis Fitch)

Wisconsin — S. B. Fracker (July 10): Normally abundant on white pine in northern counties.

POPLAR

COTTONWOOD APHID (Chaitophorus bruneri Williams)

Nebraska — M. H. Swenk (June 25-July 25): An additional report of injury to cottonwood trees by the aphid Chaitophorus bruneri was received July 11 from Morrill County.

Utah — Geo. F. Knowlton (July 21): Aphid galls on the leaf, petioles, and twigs of cottonwoods are common this year, sometimes causing considerable numbers of leaves to drop.

SPRUCE

RED SPIDER (Tetranychus telarius L.)

New York — E. P. Felt (July 24): The red spider was somewhat abundant and injurious on junipers and spruces at Rochester, as reported by R. E. Horsey, and badly infested twigs, mostly of evergreens, have been received from other parts of the State.

Indiana — J. J. Davis (July 23): We continue to receive reports, especially from the northern half of the State, of injury to cedar, Norway spruce, and other evergreens, as well as phlox, hydrangea, watermelon, pumpkin, tomatoes, and other plants. Complete defoliation was noted on sweet peas at Lafayette by Mr. Cleveland.

SPRUCE GALL APHID (Gillettea cooleyi Gill.)

New York — E. P. Felt (July 24): The Sitka spruce gall has been extremely abundant upon some Colorado blue spruce at New Rochelle.

CHERMES SP.

Utah — Geo. F. Knowlton (July 2): Spruce trees badly infested with Chermes this year in Logan, Emigration, and Big Cottonwood Canyons.

SPRUCE BUDWORM (Harmologa fumiferana Clem.)

consin S. B. Fracker (July 10): Injury to spruce and balsam increasing in northern counties, judging by reports.

A EUCOSMID (Eupinotia nanana Treit.)

ne E. M. Patch (June 24): Sample of work from place at Mere Point brought to experiment station by Prof. Briscoe.

A EUCOSMID (Argyroploce abietana Fern.)

th Dakota H. C. Severin (June 25): The caterpillars of this moth did severe damage to spruce at Dell Rapids this year.

TULIP

TULIP SCALE (Toumeyella liriodendri Gmel.)

iana J. J. Davis (July 23): Reported abundant on tulip trees at Jasper July 6.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

consin F. Cranefield (July 10): Damage local at Baraboo on walnut.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

APHIDIDAE

iana J. J. Davis (July 23): Reports of injury to flower garden plants by root aphids have been received from central Indiana the last few weeks.

RED SPIDER (Tetranychus spp.)

th Carolina F. Sherman (June 30): Several reports of it on lilac, dahlia, cantaloupe, and beans. As this is a dry weather pest and the season is thus far deficient in rainfall, we are apprehensive of outbreaks in cotton fields but no report of this received as yet.

inois W. P. Flint (July 20): The dry weather of the present season has made conditions very favorable for mites. Many reports of mite injury have come in during the last two weeks. In some cases where examinations have been made, a considerable amount of damage

has been done to flowering plants, fruits, roses, and fruit trees. Garden crops, especially beans, are also suffering severe injury from these creatures.

Wisconsin — S. B. Fracker (July 10): Tetranychus bimaculatus Harv. severely injuring ornamental evergreens such as pyramidal arborvitae, Colorado blue spruce, and various dawrf junipers at Madison and Waterloo. Also reports on ginseng at Gleason and, at Warrens, on raspberries.

EUONYMUS SCALE (Chionaspis euonymi Comst.)

New York — E. P. Felt (July 24): R. E. Horsey reports that the Euonymus scale is very abundant on Euonymus radicans and its varieties and has proved a very difficult pest to control on account of the numerous broods and the impossibility of spraying the evergreens in winter with oil.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Mississippi — R. W. Harned (July 8): Mealybugs, Pseudococcus citri, have attracted quite arbit of attention throughout the State during the last few weeks. Several different lots of specimens have been received at this office. Most of the complaints have been regarding mealybugs on fig and coleus. However, specimens collected on magnolia at McComb have been identified as Pseudococcus virgatus Ckll.

SOFT SCALE (Coccus hesperidum L.)

Wisconsin — S. B. Fracker (July 10): One request for information received from Beloit relative to attack on trumpet creeper.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Indiana — H. F. Dietz (July 23): In the vicinity of Indianapolis the 12-spotted cucumber beetle is exceedingly abundant and doing considerable damage to garden flowers, especially such things as gladioli, daisies, phlox, and zinnias.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

New York — M. D. Leonard (June 27): Insects received attacking peonies, roses, and shrubs at Rochester.

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

Mississippi — R. W. Harned (July 8): On June 19 a correspondent from Pascagoula sent to this office specimens that were identified as Fuller's rose beetle. In regard to these insects, the correspondent made the following statement: "They are found on everything in the shrub, trees, etc., line, and thoroughly destroy leafage."

LANTERN FLIES

Alabama — J. M. Robinson (June 30): Lantern flies and kudzu skippers have been very numerous and active in attacking the kudzu.

WHITEFLY (Aleurodidae)

Indiana — J. J. Davis (July 23): Abundant on house plants (Coleus) at Culver July 19.

CITRUS MITE THRIPS SP.

Kansas — J. W. McColloch (July 20): Thrips (species not determined) were reported very bad on ornamentals of all kinds in a greenhouse at Blue Rapids.

A LACEBUG (Corythucha cydoniae Fitch)

Mississippi — R. W. Harned (July 25): Lacebugs, identified as the species Corythucha cydoniae, were collected on craetegus at Laurel.

CANNA

CANNA LEAF ROLLER (Calpodes ethlius Cram.)

Texas — O. G. Babcock (July 13): Canna beds about residences in San Angelo are badly injured by this pest. This is the first time I have observed this in western Texas. The larva appears to be the same as the species found in Maryland.

CHRYSANTHEMUM

A LACEBUG (Corythucha marmorata Uhler)

Mississippi — R. W. Harned (July 8): Specimens of the chrysanthemum lace bug, Corythucha marmorata, on chrysanthemum leaves have been received from Clark and Hinds Counties.

GLADIOLI

MITES

Illinois — W. P. Flint (July 20): Several cases of severe injury to bulbs by mites have been reported during the last month, narcissus and gladiolus being the two bulbs most affected.

LILAC

LILAC BORER (Podosesia syringae Harr.)

North Carolina — F. Sherman (June 30): A few reports. Injury by this has not often been reported to us in the past.

MAGNOLIA

MAGNOLIA SCALE (Neolecanium cornuparvum Thos.)

Alabama — J. M. Robinson (June 30): The magnolia soft scale has been sent in from southern Alabama attacking Magnolia fuscata.

PHLOX

A PLANT BUG (Lopidea sp.)

Indiana — H. F. Dietz (July 23): The phlox plant bug, Lopidea sp., was doing considerable damage to phlox in nurseries at Evansville.

RHODODENDRON

RHODODENDRON LACE BUG (Stephanitis rhododendri Horv.)

New York — E. P. Felt (July 24): The rhododendron lace bug has been very bad on rhododendrons in the Durand-Eastman Park at Rochester, as reported by R. E. Horsey.

ROSE

APHIDIDAE

Wisconsin — S. B. Fracker (July 10): One complaint of Empoa rosae from Baraboo.

Utah — Geo. F. Knowlton (July 2): Rose aphids are doing more damage than for the last four years. (July 21): Roses have been heavily infested with several species of aphids this spring, and in a number of places in northern Utah the rose curculio is found in considerable numbers.

ROSE CURCULIO (Rhynchites bicolor Fab.)

Indiana — H. F. Dietz (July 23): The rose curculio was found injuring rugosa roses at Indianapolis and at West Baden the latter part of June.

TERRAPIN SCALE (Eulecanium nigrofasciatum Perg.)

Wisconsin — Mr. Jungwirth (July 10): One report of damage at Sister Bay.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

CAT AND DOG FLEAS (Ctenocephalus canis Bouche and C. felis Bouch

GENERAL STATEMENT F. C. Bishopp (June 29): Reports of annoyance to man and

Live stock from these fleas have come in from parts of Texas, Arkansas, Kentucky, and Illinois. Apparently the insects are present in about the usual numbers for this time of year.

Indiana — Harry F. Dietz (July 23): Severe outbreaks of the cat and dog fleas continue to be reported from dwellings and from buildings in Indianapolis and this vicinity. At Washington we received reports of flea outbreaks in barns but no specimens have been submitted for the determination of these species.

South Dakota — H. S. Severin (July 25): About 15 requests for control measures for fleas were received during the last few days from various sections of the State.

Nebraska — M. H. Swenk (June 25-July 25): Fleas continued to be complained of much more than usual up to July 10, when the trouble seemed to abate suddenly.

Kansas — J. W. McCollock (July 15): Fleas have proved very troublesome in several houses at Manhattan. Reports have also been received of infestations in houses at Clay Center and Salina.

CHIGGERS (Trombicula irritans Riley)

Indiana — J. J. Davis (July 23): Since last report chiggers have been reported as very annoying in lawns and shrubbery from New Albany, Bedford, and Danville.

Nebraska — M. H. Swenk (June 25-July 25): Chiggers have been unusually bad this July.

HUMAN FLEA (Pulex irritans L.)

New York — C. R. Crosby (July 6): The insects make a sharp bite which swells and itches very badly for a good many days. Reported from Blauvelt, New York.

HOURGLASS SPIDER (Lathrodectes mactans Fab.)

Alabama — J. M. Robinson (June 30): The hourglass spider or black widow, Lathrodectes mactans female, has been sent in from Huntsville by Dr. F. S. Austin, of the U. S. Public Health Service, stating that several people have been bitten by this spider. He did not mention that there were any fatalties.

CATTLE

GENERAL

HORN FLY (Haematobia irritans L.)

GENERAL STATEMENT — F. C. Bishopp (June 29): The horn fly has been less annoying to live stock in most parts of Texas, Arkansas, and Missouri

than is usual for the month of June. Although some dairymen are using sprays to protect their cattle, there is much less complaint from the insect than usual.

Indiana — C. R. Cleveland (July 20): Scarce in the early part of the season until the latter part of June, owing apparently to the long drought in latter May and early June. Rains have now resulted in great increase during early July to the present. Now very abundant and annoying to cattle. Many dairymen are asking for information on fly sprays.

Missouri — L. Haseman (July 24): Through central Missouri during the latter part of July livestock have been seriously harassed by an epidemic of the horn fly.

Texas — O. G. Babcock (July 6): For the last week or 10 days at Sonora flies have been on the increase until now they will average approximately 400 to 500 per animal on range. They are now beginning to congregate at the base of the horns.

STABLE FLY (Stomoxys calcitrans L.)

GENERAL STATEMENT — F. C. Bishopp (June 29): Very little annoyance to livestock has been occasioned by this insect during June in most parts of Texas, Oklahoma, and Arkansas. This comparative scarcity is probably associated with the dry conditions which have prevailed.

SCREW WORM (Cochliomyia macellaria Fab.)

Ohio — F. C. Bishopp (July 1): There is a slight increase in the number of adults of the screw worm around the rendering plant at Columbus on this date.

Texas — F. C. Bishopp (June 29): During June the number of cases of screw worms in all classes of live stock have greatly increased. A number of stockmen in western Texas stated that the insect is more abundant and injurious this year than it has been for several years past; they are now employing extra riders to scour the ranges and treat cases.

BLUE-BOTTLE FLY (Calliphora erythrocephala Meig.)

Ohio — F. C. Bishopp (July 1): There are a few specimens of Calliphora erythrocephala around the rendering plant at Columbus on this date (May 30).

AMERICAN DOG TICK (Dermacentor variabilis Say)

Wisconsin — S. B. Fracker (July 10): Complaints from several sections of Price County reporting great abundance, identification by Dr. Ewing.

SHEEP

SHEEP BOT FLY (*Oestrus ovis* L.)

Iowa — Carl J. Drake (July 19): The sheep grub, *Oestrus ovis* L., killed a few sheep in Jucas County this spring.

POULTRY

HENHOUSE BEDBUG (*Haematosiphon inodorus* Duges)

Missouri — L. Haseman (July 24): Some poultrymen are having apparently unusual difficulty with the common hen bedbugs in their poultry houses.

FOWL TICK (*Argas miniatus* Koch)

Mississippi — R. W. Harned (July 25): A complaint in regard to the fowl tick, *Argas miniatus*, was received from Biloxi, on July 16. No specimens were received.

STICKTIGHT FLEA (*Echidnophaga gallinacea* Westw.)

Georgia — S. E. McClendon (July 7): A number of complaints of fleas on young chickens and cats have been received at Thomasville.

Texas — F. C. Bishopp (June 29): In many parts of Texas these insects continued to cause considerable losses throughout the month of June. They are even increasing in numbers in the plateau region inwestern Texas.

ANTS (Formicidae)

Alabama — J. M. Robinson (June 30): Ants of various species have been quite active throughout the month, causing irritation in households, as well as destroying poultry -- young chickens.

INSECTS INFESTING HOUSES AND PREMISES

TERMITES

GENERAL STATEMENT — T. E. Snyder: Termites continue to be reported as seriously damaging buildings. During the past year July, 1924-25 complaints of damage have been received as follows:

Massachusetts	2	West Virginia	1	Illinois	12	Oklahoma	1
Connecticut	1	Virginia	10	Iowa	1	Alabama	6
New York	8	North Carolina	3	Nebraska	11	Louisiana	17
New Jersey	3	South Carolina	7	Michigan	1	New Mexico	2
Pennsylvania	6	Georgia	2	Missouri	9	Texas	2
Maryland	9	Florida	1	Kansas	12	California	5
D. C.	33	Ohio	12	Kentucky	3	Canal Zone	2
Delaware	1	Indiana	8	Tennessee	6	Hawaii	6

Indiana — J. J. Davis (July 23): Serious infestations reported from Buck Creek and Evansville the last two weeks.

Kansas — J. W. McColloch (July 20): At Everest white ants are very bad in buildings and are said to be destroying some homes. A dwelling at Wichita has had the woodwork undermined. A report from a home at Lyons states that the woodwork and furniture have been ruined.

J. R. Horton (July 15): The first complaint of termite damage of the summer came in today. Mop boards, joists, and flooring was severely damaged by this insect. Complaints of damage to dwellings and business buildings usually begin to come in about this time of year. This is the first report from the east side of the city.

HOUSE FLY (Musca domestica L.)

Indiana — C. R. Cleveland (July 20): Unusually abundant and troublesome for this period of year.

CRICKETS (Gryllidae)

Indiana — J. J. Davis (July 23): Reported annoying in dwelling at Aurora on July 17.

BEDBUG (Cimex lectularis L.)

Kansas — J. W. McColloch (July 10): At Oakley a dwelling is said to be overrun with these insects. Wholesale poultry houses at Wellington and Manhattan report considerable trouble from these pests.

FLEAS (Siphonaptera)

Indiana — J. J. Davis (July 23): We continue to receive numerous reports from all parts of the State of occurrence in barns, farm buildings in general, and city dwellings.

CARPET BEETLE (Anthrenus scrophulariae L.)

Indiana — J. J. Davis (July 23): Reported unusually abundant during the last few weeks at Guilford and Lafayette.

Nebraska — M. H. Swenk (June 25-July 25): An unusually large number of reports of trouble with buffalo moths, Anthrenus scrophulariae and A. fasciatus Herbst, has been received from housekeepers during the period covered by this report.

CLOVER MITE (Bryobia praetiosa Koch)

Wisconsin — S. B. Fracker (July 10): Several complaints of these pests entering houses at Madison and Milwaukee.

CORNFIELD ANT (*Lasius niger* L.)

South Dakota — H. C. Severin (June 25): Nuisances in homes. Exceedingly abundant in eastern third of the State. (July 15): An unusually large number of complaints are being received regarding the cornfield ant and its invasions of homes in eastern South Dakota.

EUROPEAN EARWIG (*Forficula auricularia* L.)

Washington — Tacoma (Wash.) News-Tribune (July 24): The earwig is gaining headway at Kalama and vicinity and county agent D. E. Leonard urges a general campaign of poisoning in that vicinity to eliminate the pest.

SCORPIONS

Texas — F. C. Bishopp (June 29): Several reports have been received of the occurrence of scorpions in numbers in houses in the vicinity of Dallas.

STORED-GRAIN INSECTS

Nebraska — M. H. Swenk (June 25-July 25): Stored-grain pests are very little complained of this summer.

GRANARY WEEVIL (*Calendra granaria* L.)

New York — M. D. Leonard (June 25): Infested samples received from Wayland, attacking wheat and barley.

DRUGSTORE BEETLE (*Sitodrepa panicea* L.)

New York — C. R. Crosby (July 1): Specimens received from Warsaw. Reported as found in sugar, bread, lard, and other places about the pantry.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 September 1, 1925 Number 6

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

INSECT PEST SURVEY BULLETIN

. 5 September 1, 1925 No. 6

UTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR THE MONTH OF AUGUST, 1925

The localized outbreaks of grasshoppers reported in the last number of the vey Bulletin have developed to somewhat serious proportions in parts of the Middle antic and East-Central States.

The results of additional Hessian fly surveys have been reported from New York Illinois. The New York wheat belt is much less seriously infested than was the last year. In the 16 counties surveyed the straw infestation this year is about per cent as compared with 5.9 per cent infestation last year. In central Illinois situation is much more serious, the infestation there being much heavier than year.

The second brood of the chinch bug promises to do little damage in the Ohio r Valley and East-Central States. No serious chinch bug situation has developed ny of the important corn States.

The corn earworm is again abundant over the northern limits of its range, g reported as more serious than it has been since the last bad outbreak of 1922.

The clover seed chalcid is doing considerable damage in the alfalfa-seed-pro- ng sections of Arizona, as high as 50 per cent of the seed being destroyed in fields.

Codling moth infestation is reported as generally more prevalent than during last three years in the East-Central States.

Massachusetts and Ohio report unusual prevalence of the plum curculio, whereas rts from Georgia indicate that this pest is very well under control in that State.

The potato leafhopper is producing serious hopperburn in the potato-growing ions of Ohio, Indiana, and Wisconsin.

The Mexican bean beetle during this month has been found in two additional ies in southwestern Pennsylvania. It is now known to be present in five coun- in that State.

Boll weevil infestations in the infested areas have increased rapidly during ast fifteen days, owing to general field migration. The only serious injury so eported is from southern Alabama, east-central Georgia, and the Coastal Plain tons of the Carolinas.

Boll worm injury seems to be more prevalent than usual in the Mississippi ly and Texas.

The cotton worm is generally extremely prevalent over the entire cotton bel eastward to Alabama.

In this number is an interesting report from Porto Rico of a very serious infestation of sugarcane by the sugarcane leaf scale.

In the Cape Cod section of Massachusetts the elm leaf beetle is seriously browning the trees and in Fresno County, California, the pest is completely defoliating all untreated trees.

The locust leaf miner seems to be generally abundant over the entire eastern part of the United States.

The European earwig colony in East Aurora, New York, is apparently spreadin

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR AUGUST, 1925

The grasshopper situation in British Columbia is serious and severe outbreak are anticipated in 1926. From 100 Mile House to Quesnel the roadside grasshopper, Camnula pellucida (Scudder), is extremely abundant, and from Chilcotin to Vernon, grasshopper outbreaks are either in progress or are expected to develop next summer.

The western wheat-stem sawfly is proving of considerable economic importance in the Province of Saskatchewan this year.

The European red mite occurred in outbreak form in the Niagara district and southwestern Ontario this summer and caused serious injury to the foliage of Europea plums and apples.

The mite, Tetranychus telarius, Linn. has become very numerous on hops at Sardis, British Columbia, due to the hot dry weather.

The Hessian fly has been found present over practically the whole of the Fraser River Valley, New Brunswick, from Fredericton to Grand Falls. It was also noted at West Devon, Prince Edward Island. The infestations were light, varying from one to three per cent.

The western lined June beetle, Polyphylla decemlineata (Say), is occurring in serious outbreak form near Salmon Arm, British Columbia, attacking vegetables and small fruits.

An additional outbreak of the codling moth in British Columbia is reported from Okanagan Centre.

The fruit-tree leaf-roller has been of very minor importance this season in the Niagara district, Ontario, even in orchards usually subject to severe attack.

Cutworms are reported as troublesome on truck crops in the Fraser River Vall British Columbia.

The Colorado potato beetle has been relatively unimportant in northern skatchewan this season.

Potato leafhoppers have been generally abundant and injurious to potatoes southwestern Ontario.

The oat thrips, Anaphothrips obscurus Miller, caused twenty-five per cent ss in some fields of oats at Richmond, Prince Edward Island, in mid-August.

The larch sawfly, Lygaeonematus erichsoni Hart., is causing severe injury larches throughout New Brunswick and Prince Edward Island, apparently all the rches being affected.

The maple leaf cutter, Paraclemensia acerifoliella Fitch, has caused severe jury to maples in southeastern Quebec.

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

ryland — P. D. Sanders (August 6): At Clearspring 40 acres of alfalfa and 80 acres of young apple trees were heavily infested by Melanoplus femur-rubrum DeG. Apple trees were being completely defoliated and spots in the alfalfa field had been eaten down to main stems.

orgia — Oliver I. Snapp (July 14): In several fields at Fort Valley grasshoppers have considerably damaged field corn. They are more abundant this year than usual.

io — T. H. Parks (August 19): Wet weather has held the grasshoppers in the meadows and stubble fields so that very little damage has been done to corn. Young clover and pastures have been damaged. The grasshoppers are now very abundant in alfalfa in many counties. Farmers have used the poisoned-bran mash with fine success. Corn, clover, bluegrass, and truck crops have been protected with it. The insects are most numerous in the southeastern part of the State.

H. A. Gossard (August 24): Grasshoppers in injurious numbers have been recently reported from Howard, Xenia, Salesville, Lewisburg, Kent, and Akron. A field of alfalfa at Salesville was reported as almost ruined and fear was expressed for the safety of all crops on the farm. A peach orchard at Howard and a young apple orchard at Xenia were also threatened with destruction by grasshoppers.

liana — C. R. Cleveland (August 21): Reports from various parts of the State continue to indicate that here and there grasshoppers are troublesome. The county agent at Kokomo last week reported a serious infestation of grasshoppers on clover and in an adjoining field of corn and requested a demonstration of control.

Tennessee — A. C. Morgan (August 20): Some complaint of grasshopper injury at Clarksville has been received but not enough to require remedial measures.

Nebraska — M. H. Swenk (July 25 to August 25): During the last week in July a report from Cass County was to the effect that differential grasshoppers (Melanoplus differentialis) were gnawing the stems of grapes and causing the bunches to drop to the ground to such an extent that the crop was being destroyed.

Kansas — J. W. McCollock (August 18): Few reports of grasshopper injury have been received. At Rolla and Elkhart some damage has occurred to alfalfa. A farmer at Uniontown says the grasshoppers are ruining a young apple orchard by eating the foliage and bark. Four hundred 1-year-old trees have been injured.

Oklahoma — E. E. Scholl (August 20): During the spring and early summer of this year we had one of the largest grasshopper fights that was ever carried on by the State.

Arizona — Arizona News Letter (Vol. 3, No. 6, June 30): During the month of June a very successful eradication campaign against grasshoppers was conducted by representatives of the office of the State Entomologist. The hoppers began to be troublesome in the alfalfa fields near Gilbert during May but the peak of the outbreak came in early June and appeared to be more concentrated in the Goodyear and Chandler districts. At the former place the adult hoppers appeared by the millions in the large alfalfa fields and in several instances moved into the neighboring cotton fields. A number of fields of alfalfa were so badly infested that practically all of the foliage was eaten off leaving only the bare straws.

LUBBER GRASSHOPPER (Brachystola magna Gir.)

New Mexico — J. R. Douglas (August 22): The lubber grasshoppers, Brachystola magna Gir., were noted in great numbers crossing the Deming and Lardsburg highway for about two miles. The areas being traversed by the grasshoppers were grazing lands.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

New York — C. R. Crosby: The preliminary results of the Hessian fly survey for 1925 in the counties listed below are as follows:

County	Per cent	County	Per cent
Cayuga	2.5	Ontario	2.2
Chemung	6.0	Orleans	1.0
Erie	0.3	Oswego	0.0
Genesee	1.6	Schuyler	1.3
Livingston	0.0	Tompkins	1.0
Monroe	1.6	Wayne	1.1
Niagara	1.0	Wyoming	2.1
Onondaga	0.6	Yates	2.5

The same counties as surveyed last year were again surveyed this season. Last year this region showed a 5.9 per cent infestation of straw whereas this year the average infestation was only 1.5 per cent.

inois W. P. Flint (August 18): The annual wheat insect survey has been conducted in Illinois during the first two weeks of August. Examinations were made in 37 of the principal wheat-growing counties in the State. This survey showed a heavy infestation by the Hessian fly in wheat stubble in the central counties of the State, with a moderate to light infestation in the north, and a light to very light infestation in the extreme south. Parasitism varied from 12 to over 50 per cent. Very little volunteer wheat was found in any part of the State. All fly found were in the puparia. In central Illinois the increase in infestation is quite marked over that of last year with but little change in the northern and southern parts of the State. Apparently emergence will take place at about the normal time if the present rains continue.

sas J. W. McColloch (August 18): The results of a recent Hessian fly survey based on reports made by 604 farmers show that at least 30 per cent of the total wheat acreage of the State was infested. The eastern third of the State showed infestation running from 3 to over 60 per cent. The heaviest infestation was in the central and west-central counties where the infestation ran from 60 to as high as 97 per cent. In the eastern quarter of the State damage ran from 1,000 to 100,000 bushels to the county, whereas in the heavily infested region in Kansas infestation ran from 500,000 to over 1,000,000 bushels to the county. Reports from 21 counties give a grand total of 6, 538,000 bushels loss due to this infestation.

WESTERN WHEAT SAWFLY (*Cephus cinctus* Norton)

th Dakota R. L. Webster (August 20): Reports of severe damage in Pierce and Divide Counties to spring wheat havebeen received.

JOINTWORM (*Harmolita tritici* Fitch)

inois W. P. Flint (August 18): The wheat insect survey has shown the jointworm confined very largely to the same areas of the State where it was present in 1924. The infestation has increased slightly in the northwest central and southern counties. In

some of the southern counties as high as 50 per cent of all wheat culms were infested. In the northwest central counties 5 to 18 per cent. Parasitism was lower than last year.

WESTERN WHEAT-STEM MAGGOT (Hylemyia cerealis Gill.)

Nebraska — M. H. Swenk (July 25 to August 25): Some belated reports indicate more extensive damage during June by the western wheat-stem maggot than was indicated in my report of June 25.

A WHITE GRUB (Phyllophaga lanceolata Say)

Kansas — J. W. McColloch (August 19): The grubs of this beetle are very abundant in a 30-acre field which is being prepared for wheat. They destroyed the wheat on this ground last year.

CORN

BUMBLE FLOWER BEETLE (Euphoria inda L.)

Kansas — J. W. McColloch (August 7): The adults are rather common in sweet corn about Manhattan. In some truck gardens they are causing injury by burrowing into the tips of the ears.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

Virginia — A. M. Vance and G. W. Underhill (August 10): In our plats of field corn planted June 12, 28 per cent of the plants were infested by this insect, and as a result of the typical killing of the buds, such infested plants will produce no corn. Infestation in several near-by fields of late corn ran somewhat lighter, averaging slightly over 6 per cent. Moths of the second brood have been in the field for several weeks.

CHINCH BUG (Blissus leucopterus Say)

Ohio — T. H. Parks (August 19): With the best prospects for a corn crop this State has had in years in northwestern counties, the chinch bug is scattered through the corn and making very little impression upon it. No damage will come from the second brood.

Illinois — W. P. Flint (August 18): The weather of late July and the first part of August has continued favorable to chinch-bug development, whereas practically no damage will occur from the second-brood bugs this year. Apparently sufficient numbers of bugs will go into winter quarters in many sections of the State to cause some injury next season.

Nebraska — M. H. Swenk (July 25 to August 25): Although the migration of the chinch bugs (Blissus leucopterus) from the small grains into the corn crops was largely over by July 10, and most of the bugs had gained their wings a few days later, there were some reports of

continued injury in corn and cane fields during the remainder of July. Some rather important injury of this sort was reported from Phelps and Harlan Counties, west of the main area of damage as given in my report of July 25, during the last week in July. The second generation of this pest is doing damage in the cornfields of southeastern Lancaster County at the time of the forwarding of this report. Many bugs of the second generation have become matured at this time.

CORN EAR WORM (Heliothis obsoleta Fab.)

Hampshire P. R. Lowry (August 10): Half a dozen larvae sent in from a small patch of sweet corn. This is the first record of this species in the State since 1922.

inois W. P. Flint (August 18): There has been very little increase in injury by the corn ear worm during the past month, a light infestation occurring in sweet corn fields, but no very serious damage to date.

consin E. L. Chambers (August 20): Several complaints have been received from growers to the effect that this pest has made its appearance in southern Wisconsin, but little damage has been done as yet.

nessee A. C. Morgan (August 20): The corn ear worm was quite injurious in the buds of the young corn in late July at Clarksville.

as F. L. Thomas (August 19): Two or 3 worms to every head of milo, great numbers in the corn. Also reported from Lubbock, Hall, Wichita, Cass, Panola, Tyler, and Brazoria Counties.

ifornia T. D. Urbahns and assistants (August 19): In Mendocino County the corn ear worm is attacking corn and doing severe damage.

CORN ROOT WORM (Diabrotica longicornis Say)

raska M. H. Swenk (July 25 to August 25): During the last week in July we received several reports of serious injury to corn by the western corn-root worm (Diabrotica longicornis) from Dundy County, in the extreme southwestern part of Nebraska. Many fields were reported as affected, the damage in some cases being estimated as fully 20 per cent of the field destroyed. One seventy acre field was attacked both by the western corn-root worm and the seed-corn beetle (Agonoderus pallipes), the latter also attacking the root system of the corn, and in combination these two pests threatened to destroy the field. Injury by the western corn-root worm was also reported from Kearney County. This pest as a rule is not seriously injurious so far to the westward in Nebraska.

ARMYWORM (Cirphis unipuncta Haw.)

Illinois — W. P. Flint (August 18): A small outbreak of armyworms occurred in the south-central part of the State, being confined largely to Coles and Douglas Counties. Practically all injury occurred in cornfields, and was not of a very severe nature; the lower leaves were eaten from the corn, but little if any reduction will be mad in the yield.

CORN LEAF APHID (Aphis maidis Fitch)

Nebraska — M. H. Swenk (July 25 to August 25): During the first half of August there were reports of a destructive abundance of the corn leaf aphid (Aphis maidis), working on the corn tassels and other parts of the corn plants, in Seward, Saline, and Nuckolls Counties

Kansas — J. W. McColloch (July 30): Cornfields in Reno County are reporte to be rather generally infested by this aphid. In some cases the tassel is not emerging from the foot owing to the abundance of this pest.

ALFALFA

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

Kansas — J. W. McColloch (August 18): A rather serious outbreak of the cotton cutworm developed in this county (Riley) about August 5. In some fields alfalfa was held back several weeks. Where the alfalfa was in bloom the worms did considerable damage by cutting off the bloom. Tachinid parasites were very active and from 75 to 90 per cent of the worms bore eggs. At present (August 18) the worms have nearly all disappeared.

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica Grote)

California — A. O. Larson (July 31): This insect was serious in Merced and Stanislaus Counties in 1933. It is becoming serious in Merced County this year, attacking alfalfa, beans, watermelon, grapevines, and young peach trees.

ALFALFA CATERPILLAR (Eurymus eurytheme Boisd.)

California — A. O. Larson (July 30): While driving north through the San Joaquin Valley on July 30 I noted that many of the radiators of southbound automobiles were well covered with alfalfa butterflies. This was interesting because the butterflies did not appear to be remarkably numerous and were not on all the machines. A few were flying about in no definite direction. Apparently as many were going in one direction as in any other. This condition was noted for about 75 miles but soon after I passed Tulare I came to a very heavy infestation of the butterflies. They were literally swarming over the alfalfa on both sides of the highway. Here was where the automobiles were catching the butterflies. North of Kingsburg they were again less numerous but they were quite noticeable the next 115 miles or as far north as Modesto.

CLOVER SEED CHALCID (Bruchophagus funebris How.)

izona — Arizona News Letter (Volume 3, No. 7): A noticeable increase of the alfalfa seed chalcid fly has been reported from the Yuma district. Reports also have reached the office that this insect has been very destructive to the alfalfa seed in the Chandler district of the Salt River Valley. As much as 50 per cent of the seed has been destroyed in some fields.

BLISTER BEETLES (Meloidae)

nsas — J. W. McColloch (August 18): Blister beetles have not been bothersome during the past month. Reports from Alton and Falun indicate some damage to alfalfa.

VARIEGATED CUTWORM (Lycophotia margaritosa saucia Hbn.)

lifornia — T. D. Urbahns and assistants: The variegated cutworm is attacking gardens and alfalfa in Modoc County, being severe in places. Damage first noticeable about June 15.

VELVET BEAN

FALL ARMYWORM (Laphygma frugiperda S. & A.)

uth Carolina — Philip Luginbill and T. C. Shiver (August 21): The fall armyworm is attacking velvet beans at Columbia in a field containing 100 acres.

ARMYWORM (Cirphis unipuncta Haw.)

uth Carolina — Philip Luginbill and T. C. Shiver (August 21): A field of 100 acres in Congaree River bottoms about 7 miles from the city is attacked by this insect. Slight damage is being done.

ifornia — T. D. Urbahns and assistants (August 15): Adjoining fields of alfalfa were cut and migration of the worms to the beans took place destroying as much as 10 acres of beans in one night at Escalon, San Joaquin County. Growers are using furrow method and poioned-bran mash for control.

APHIIDAE

ifornia — T. D. Urbahns and assistants (August 15): Several fields in Escalon-Manteca districts heavily infested. Growers are using various contact insecticides with varying degrees of control. Sample of insect sent to Geo. Wilson for identification.

GREEN CLOVER WORM (Plathypena scabra Fab.)

South Carolina — Philip Luginbill and T. C. Shiver (August 21): A field at Columbia containing 100 acres was attacked by this insect. This same field was also infested with true and fall armyworms. Considerable damage is being done.

COWPEAS

AN APHID (Aphis medicaginis Koch)

Indiana — C. R. Cleveland (August 21): Reports, including specimens of the cowpea or locust aphid (Aphis medicaginis), have been receive from several points in the State that this aphid has been abundan and injurious on cowpeas during the past month.

MESQUITE

MESQUITE BEAN MOTH (sp. undetermined)

Texas — O. G. Babcock (July 28): Largest bean crop in at least five to 6 years in vicinity of Sonora, Ozona, Eldorado, and Rocks Springs, Texas. To date (July 28) there seems to be two crops of the mesquite beans as well as two broods of the mesquite bean pod moth. Parasites very numerous, hence holding in check the ravages of the moth larvae. Loss probably less than ½ of 1 per cent.

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

APPLE

APPLE FRUIT CHAFER (Metachroma interruptum Say)

Indiana — B. A. Porter (August 8): This insect caused considerable damage to the fruit of a few apple trees in an orchard near Decker durin the early part of July.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

Indiana — B. A. Porter (August 8): Most of the weevils entered hibernatio between July 10 and 15.

APPLE APHID (Aphis pomi DeG.)

Ohio — H. A. Gossard (August 24): The green apple aphid became quite generally noticeable over the northeastern section of the State during June, July, and early August. Hundreds of trees in many orchards were blackened by the fungous growth in the honeydew. They were particularly noted at Ravenna, Chardon, Painesville, Cleveland, and Berea. They were most numerous about the first of July and at the present time have largely subsided.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

o E. W. Mendenhall (August 20): I find that a great deal of apple stock in the nurseries south and west of Columbus is infested with the woolly aphid, especially the aerial form.

CODLING MOTH (Carpocapsa pomonella L.)

o T. H. Parks (August 19): The plum curculio, together with the codling moth, is solving the market problem of apples grown in the uncared-for farm orchard. Practically no unsprayed fruit is free from attack and the insect is causing losses in some well-sprayed orchards.

iana B. A. Porter (August 8): Although the codling moth got a late start in this section (Vincennes) with reference to the blooming period of the apple, conditions since the beginning of the entrance of the worms into the fruit have been very favorable to them, and the infestation in most orchards is unusually severe. According to banding records, there has been no definite break between the first and second broods.

inois W. P. Flint (August 18): As indicated earlier in the summer, the codling moth is more abundant this season than during the last three years. Some poorly sprayed orchards show a fairly high infestation, mainly by late worms from eggs which have hatched during the last two weeks.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Hampshire P. R. Lowry (July 29): Injuring tip of branches of nearly every tree in an orchard at Hollis.

sachusetts A. I. Bourne (August 22): The first moths of the second generation of the apple and thorn skeletonizer were making their appearance about the 30th of July. We are finding that the pest is just about as abundant as was the case last year at the corresponding period of seasonal development. The ease with which this has been controlled has led our leading fruit growers to rank it among the more or less secondary pests which they have to consider.

RED-BANDED LEAF ROLLER (Eulia velutinana Walk.)

iana B. A. Porter (August 8): This pest continues to be present in most orchards in small numbers. The outbreak at Vincennes reported earlier stopped with the first brood, the second being present in only very small numbers.

FALL WEBWORM (Hyphantria cunea Drury)

Massachusetts — A. I. Bourne (August 22): The fall webworm is slightly more abundant than has been the case for several years.

Indiana — C. R. Cleveland (August 21): The webs of this insect are a very common sight on apple trees and shade trees throughout those portions of central and northern Indiana which have been visited by the writer. Portions of trees and branches show considerable defoliation.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Ohio — E. W. Mendenhall (August 5): I find that Datana ministra is quite troublesome in a number of orchards in the central and southern portions of the State.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Indiana — B. A. Porter (August 8): Second-brood crawlers began appearing about July 12 at Vincennes. The unseasonably hot weather in early June, when the first brood of crawlers was appearing, apparently caused the pest to multiply much faster than is usual with the first brood. Serious infestations are developing in a few orchards in this section.

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

Massachusetts — A. I. Bourne (August 22): The European red mite, for some reason or other, quite generally over the State, has jumped ahead in its abundance during late July and early August. As a result, the characteristic bronzing of the foliage is beginning to make its appearance in very many of our orchards. In general the pest is not serious in orchards where the oils were thoroughly applied. It has been the custom of some fruit growers to skip some of the blocks in seasons where there is little expectation that there will be any fruit. It has been noted that the mites have gotten their start chiefly on those trees which were not given attention at the proper season.

PEACH

PEACH TWIG BORER (Anarsia lineatella Zell.)

Massachusetts — A. I. Bourne (August 22): W. D. Whitcomb, who is located at the field station at Waltham, reports the peach twig borer on peach in Waltham and vicinity, which is in Middlesex County. He reports that 5 per cent of the twigs in some cases are damaged.

lifornia T. D. Urbahns (August 19): Field observations for the past two weeks show considerable loss to canning peaches in southern, central, and northern peach districts. Some orchards show fruit 100 per cent infested where spraying was neglected and the crop was light. Late peaches are more infested than early varieties.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

orgia Oliver I. Snapp and assistants (July 14): Fourth-generation pupae are now being noted in the insectary. There has been no increase in the infestation at Fort Valley. (August 15): Some individuals of the fifth generation of the Oriental peach moth have been reared in the insectary at Fort Valley.

liana B. A. Porter (August 8): No Oriental fruit worms have yet been found in southern Indiana this season. Occasional instances of typical injury have been found, but this may, of course, have been caused by the peach twig-borer or some other species.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

orgia Oliver I. Snapp (August 15): This insect has apparently increased very rapidly on peach trees since the close of the peach-shipping season. Weather conditions have been favorable for scale reproduction.

RRECTION In Volume 5, No. 5, page 247, note on Green June Beetle, Cotinis nitida L., credited to H. F. Dietz, instead of reading "foliage of peach and grasses" should read "foliage of peach and grapes."

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

rginia W. S. Hough (August 22): The beetles are breeding and spreading at a rapid rate at New Market in one large apple orchard. At Winchester cherry and peach are being attacked to the extent that the spread is from the weakened trees to healthy trees. Neglect in looking after weakened trees has resulted in the present outbreak.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

ssachusetts A. I. Bourne (August 22): The plum curculio seems to be very abundant in most sections of Middlesex and Worcester Counties, the chief fruit-growing region of the State. In the absence of any serious infestation of aphids or leafhoppers, the plum curculio is by far causing more serious loss than any of our other fruit insects.

Georgia — Oliver I. Snapp (July 14): Over 8,500 cars of Georgia peaches have moved to date unusually free of plum curculio larvae. The insect is apparently under most excellent control. There are no small larvae in the Elbertas that are now moving, and other observations point to an absence of a second generation in Georgia this year. The absence of a second brood is attributed to the very unfavorable weather conditions during the pupation season, which caused first-generation adults to be late in emerging from the soil. (August 15): The very dry and hot weather has been most unfavorable for the development of adults in the soil. The general curculio infestation in the Georgia Peach Belt is lower than it has been for seven years.

Ohio — T. H. Parks (August 19): This insect, together with the codling moth, is solving the market problem of apples grown on the uncared for farm orchard. Practically no unsprayed fruit is free from attack and the insect is causing losses in some well sprayed orchards.

PLUM

RED SPIDER (Tetranychus spp.)

California — Weekly News Letter, State of California, Vol. 7, No. 17, August 23: An infestation fully as severe as that of 1924 has again occurred during the season of 1925. The red spider has been particularly active in many orchards of the Sacramento Valley, causing defoliation of trees and a corresponding reduction of quality of fruit and loss of crop. Despite the efforts of fruit growers who have experimented with different spray materials this pest has continued to spread. It is hoped that through a discussion of latest methods by members of the staff of the Department of Agriculture, the University, and spray organizations, methods may be devised which will help to bring it under control.

GREEN JUNE BEETLE (Cotinis nitida L.)

Kansas — J. W. McColloch (July 31): This beetle was received from Bethel with the information that it was doing some injury to plums in an orchard there.

RASPBERRY

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

Indiana — C. R. Cleveland (August 21): Report of species feeding on raspberries received from Bedford. Specimens were included.

GRAPE

RED SPIDER (Tetranychus telarius L.)

lifornia — T. D. Urbahns and assistants (August 17): Serious injury to Alecanto Bouche grapevines, Delano, and Wasco. Also serious on ornamentals owing to lack of control practice.

SIX-SPOTTED GRAPE BEETLE (Pelidnota punctata L.)

diana — H. F. Dietz (July 25): In the vicinity of Indianapolis a six-spotted grape beetle has been doing considerable damage to grapes. One man brought in specimens and said that he had collected hundreds of them from his vines.

GRAPE LEAF SKELETONIZER (Harrisina americana Guer.)

izona — Arizona News Letter, State Comm. of Agric. and Hort., Vol. 3, No. 7 (July 31): The grape leaf skeletonizer was reported from the Verde Valley, and a slight outbreak was also observed in a vineyard near Phoenix.

GRAPE LEAFHOPPER (Erythroneura comes Say)

izona — Arizona News Letter, State Comm. of Agric. and Hort., Vol. 3, No. 7 (July 31): The grapevine leafhopper has been abundant in practically all the vineyards near Phoenix during the past month.

PRUNES

RED SPIDER (Tetranychus spp.)

lifornia — T. D. Urbahns and assistants (August 15): At Fresno prunes especially are seriously affected — peaches and figs and Zinfandel grapevines.

CRANBERRY

CRANBERRY FRUIT WORM (Mineola vaccinii Riley)

sachusetts — A. I. Bourne (August 22): Mr. Lacroix, who is at the cranberry substation at East Wareham, reports that the cranberry fruit worm is notably less in its intensity of infestation than usual throughout the cranberry-growing section of the Cape.

PECANS

FALL WEBWORM (Hyphantria cunea Drury)

ergia — Oliver I. Snapp (July 14): This insect, which is normally very common on pecan, persimmon, etc., at this season of the year in central Georgia, is scarce this year. The very hot dry summer may have been responsible for its absence, although parasites were perhaps a factor.

A FLAT-HEADED BORER (Buprestidae)

Arizona — Arizona News Letter, State Comm. of Agric. and Hort., Vol. 3, No. 7 (July 31): The flat-headed borer was found to have killed a number of young pecan trees in two plantings northeast of Phoenix The trees were girdled near the base by the action of the borers.

ALMONDS

A RED SPIDER (Tetranychus telarius L.)

California — T. D. Urbahns (August 18): This species together with Bryobia praetiosa has caused early defoliation of almond trees. The crop is naturally reduced considerably.

PEACH TWIG BORER (Anarsia lineatella Zell.)

California — T. D. Urbahns and assistants (August 15): Careful inspection of the mature nut will usually show the point of entrance into the remal of the nut, but commercially it will be impracticable to examine every nut. This will result in a lowered price for the farmer for his product.

CITRUS

CITRUS APHID (Aphis spiraecola Patch)

Louisiana — H. K. Plank (August 11): Numerous tender tips on two willow-leafed mandarin orange trees were found today curled by this aphid in the Jules Morel grove. Many curled tips were also seen in other groves in the vicinity of Burns, where none were apparent on July 24. Mr. Morel states that he has noticed curled leaves in his grove for a year or more. Damage, however, has never been very great. So far as known thisis the first recorded occurrence of the "citrus aphid" in Louisiana.

IVY SCALE (Aspidiotus hederae Vall.)

Arizona — Arizona News Letter, State Comm. of Agric. and Hort., Vol. 3, No. 6 (June 30): The oleander scale was discovered upon a grapefruit tree in one of the plantings northwest of Phoenix. Only one tree in the entire grove was found infested and steps were immediately taken for its suppression. As the tree was far distant from any oleander plants it seems likely that the scale was introduced upon the grapefruit tree by visiting birds.

TERMITES

Texas — F. L. Thomas (August 20): At Alamo termites were attacking citrus, one tree being killed. They worked on the roots.

TRUCK-CROP INSECTS

MISCELLANEOUS FEEDERS

WIREWORMS (Elateridae)

aho — M. C. Lane (August 5): Wireworms were found to be on the increase over most of the irrigation projects in southern Idaho, eliminating the growing of such crops as corn, potatoes, onions, and melons. The farmers were very anxious that something be done on the control of the pest.

A RED SPIDER (*Tetranychus telarius* L.)

linois — W. P. Flint (August 18): Mites, mainly *Tetranychus telarius*, have caused serious damage to gardens and small fruit plantations throughout the central part of the State, beans having been a failure in many gardens because of the abundance of these creatures.

BLISTER BEETLES (Meloidae)

ssachusetts — A. I. Bourne (August 22): For the last week or ten days the black blister beetles have been making their appearance and doing considerable havoc, particularly on flowers.

io — H. A. Gossard (August 24): Black blister beetles, I suppose *Epicauta pennsylvanica* DeG., were reported as injurious to potatoes at Dalton and have been observed at Wooster.

diana — C. R. Cleveland (August 21): There has been an apparent increase in the number of blister beetles, particularly the black blister beetle, on potatoes and other garden crops during the last two weeks. Several reports from correspondents have been received and personal observations have disclosed a number of instances of rather severe damage.

SEED CORN MAGGOT (*Hylemyia cilicrura* Rond.)

w Mexico — J. R. Douglass (August 22): Specimens of the seed corn maggot have been received from Tucumcari, Quay County, with the complaint that it was causing considerable damage to beans.

MOLE CRICKETS

abama — J. M. Robinson (July 31): Mole crickets, probably the Porto Rican, continue to attract attention in various southern counties of the State.

POTATO AND TOMATO

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata* Say)

io — H. A. Gossard (August 24): There was a severe outbreak of the Colorado potato beetle at Craighton, requiring strenuous use

of poisons to control the beetles. This appears to have been somewhat local, and so far as detected damage by the potato beetleshas not been unusually excessive over most of Ohio territory.

POTATO APHID (Illinoia solanifolii Ashm.)

Ohio H. A. Gossard (August 24): The green and pink potato aphid became very numerous on three of our experimental plots of potatoes at Wooster, but were eventually cleaned up by ten different species of ladybird beetles which were observed working on them. It was noted as doing considerable damage to tomatoes about Toledo August 1.

GREEN PEACH APHID (Myzus persicae Sulz.)

Indiana C. R. Cleveland (August 21): Potatoes at various points in northern and central Indiana ordinarily show infestation by this species each year. Although it has not been as abundant as usual thus far during the present season, some colonies are beginning to appear in conspicuous numbers at the present time. No direct injury is yet apparent but in view of the known ability of this species to carry potato disease, there will undoubtedly be a sufficient infestation to have some influence on disease transmission.

LEAFHOPPER (Empoasca fabae Harr.)

Ohio T. H. Parks (August 19): The potato leafhopper continues to be a serious pest of potatoes. Hopperburn is now prevalent on unsprayed potatoes.

H. A. Gossard (August 24): There is a somewhat general infestation of the potato or apple leafhopper and at Craighton these finished up what the beetles left, causing great shrinkage to the crop. There has been considerable shrinkage from leafhopper damage over most of northern Ohio.

Indiana C. R. Cleveland (August 21): Empoasca fabae Harr. has continued to increase on potatoes at Lafayette. Early potatoes have shown very severe injury and in many cases the vines are already dead owing at least partly to attack by this species. Hoppers are now abundant on late potatoes and the injury is beginning to appear on these plants conspicuously.

Wisconsin E. L. Chambers (August 20): There has been quite a serious loss to potatoes from hopperburn during the past two weeks. The infestation is much worse than the past two years. All blocks of apple in the nurseries and dahlias in the majority of gardens showmarked injury from hopperburn.

STALK BORER (Papaipema nebris nitela Guen.)

Ohio H. A. Gossard (August 24): The common stalk borer has been numerously reported over most of northern Ohio during the months of June, July, and August. It was particularly noted as damaging

potatoes in the neighborhood of Castalia, in Erie County, and was reported from 29 other localities since June 23, infesting corn, potatoes, tomatoes, rhubarb, dahlias, horseweed, flowers, etc.

braska — M. H. Swenk (July 25 to August 25): A few complaints of injury by the stalk borer (Papaipema nebris nitela) continued until the end of July.

TOBACCO WORM (Protoparce quinquemaculata Haw.)

egon — Sadie E. Keen (July 29): Fourteen full-grown hawk-moth larvae were brought in from a half-acre potato patch near Forest Grove. Usually only one or two are brought in in a season.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

braska — M. H. Swenk (July 25 to August 25): Injury to potato, tomato and cucumber plants by the potato flea beetle has been reported from northern and western Nebraska during the past ten days.

AUSTRALIAN TOMATO WEEVIL (Listroderes obliquus Gyll.)

ssissippi — M. M. High (August 11): The weevil is now about Crystal Springs.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

sconsin — E. L. Chambers (August 20): Complaints are still coming in from cabbage growers to the effect that the loss from the worm is quite serious this year.

CABBAGE APHID (Brevicoryne brassicae L.)

linois — W. P. Flint (August 18): The outbreak of the cabbage aphid in northern Illinois has been checked somewhat by weather conditions and the insect enemies of this pest. A large amount of damage has been done to cabbage in the trucking sections adjacent to Chicago.

sconsin — E. L. Chambers (August 20): There has been quite a serious loss to cabbage growers in Racine County from the cabbage aphid. Several fields show 50 per cent loss.

HARLEQUIN BUG (Murgantia histrionica Hahn)

abama — J. M. Robinson (July 31): The harlequin cabbage bug has been sufficiently numerous in parts of the State to cause considerable concern.

STRAWBERRY

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

sconsin — E. L. Chambers (August 20): The nursery inspectors have been finding a bed of strawberries in practically every section of the State,

with a light infestation of root lice, but it is very light and less than 5 per cent of the nurseries have been reported as having it.

WHITE GRUBS (Phyllophaga spp.)

Wisconsin — E. L. Chambers (August 20): There has been quite a heavy loss to strawberry growers from the white grubs during the past season, the loss being heavier than last year and very general.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Wisconsin — E. L. Chambers (August 20): Several large plantings were practically ruined in Jefferson County because of neglect to spray for the asparagus beetle.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Pennsylvania — J. N. Knull (August 25): During the present month the Mexican bean beetle has been found in two additional counties, Alleghany and Fayette, to the territory already known to be infested in this State. The infested territory now covers the southwestmost five counties in the State extending from Beaver, on the north, to Fayette, on the southeast.

West Virginia — W. E. Rumsey (August 1): During the current year 13 counties not known to have been infested last year are now within the infested territory. The entire western three-fourths of the State is infested. The easternmost counties are Preston, Tucker, Lewis, Clay, Nicholas, and Greenbrier.

Ohio — H. A. Gossard (August 24): The Mexican bean beetle was observed at Rocky River in early August and we infer that it is now distributed over practically the entire State.

Indiana — Neale F. Howard (August 26): The Mexican bean beetle is reported from Franklin and Jackson Counties.

Tennessee — Neale F. Howard (August 26): The Mexican bean beetle is reported from McNairy County.

Alabama — J. M. Robinson (July 31): The Mexican bean beetle has been active in the northern and eastern parts of the State.

New Mexico and Arizona — J. R. Douglass (August 22): The infestation of the Mexican bean beetle over the southwestern part of New Mexico and southeastern part of Arizona is lighter this season than for several years. Early plantings of home garden beans are infested, but no injury is noted to late field plantings. The adults of the first generation are appearing over the above areas.

RED-HEADED FLEA BEETLE (Systena frontalis Fab.)

Mexico — J. R. Douglass (August 22): On July 28, this insect was noted attacking a six acre field of late planting of beans in the Rio Grande River Valley. Beans in poor conditions and beetles concentrated on stunted plants.

MELONS

MELON APHID (Aphis gossypii Glov.)

Ohio — T. H. Parks (August 19): Some growers in northwestern Ohio lost their plants from a very severe infestation of these aphids during July and early August.

Indiana — C. R. Cleveland (August 21): Reports of injury to cucumbers and melons have been coming in for the last week or two from all parts of the State.

Nebraska — M. H. Swenk (July 25 to August 25): During the entire period covered by this report the melon aphid has been fully normally injurious, in contrast to its records in July.

Kansas — J. W. McColloch (August 13): The melon aphid was somewhat late in making its appearance this year, the first report coming from Whitewater on July 24. The outbreak developed rapidly, however, and the aphids have caused heavy losses to the growers of watermelons, cantaloupes, and cucumbers.

MELON WORM (Diaphania hyalinata L.)

Alabama — J. M. Robinson (July 31): Cantaloupe worms have been rather active over the southern and central parts of the State.

SQUASH

SQUASH BORER (Melittia satyriniformis Hbn.)

Indiana — C. R. Cleveland (August 21): Injury by this borer to squashes has been the subject of more than the usual number of reports this summer.

Nebraska — M. H. Swenk (July 25 to August 25): The squash-vine borer was very frequently reported as injurious to squashes and cucumbers during August.

SQUASH BUG (Anasa tristis DeG.)

Nebraska — M. H. Swenk (July 25 to August 25): The squash bug Anasa tristis DeG. has continued to be at least normally troublesome.

ONIONS

ONION THRIPS (*Thrips tabaci* L.)

New Mexico and Arizona — J. R. Douglass (August 22): The onion thrips was noted in injurious numbers on Valencia onions in San Simon Valley, N. Mex., and in Sulphur Spring Valley, Ariz.

PHLACRID BEETLE (*Eustilbus apicalis* Melsh.)

Michigan — R. H. Pettit (August 24): Mr. John Freeman of Lowell, Mich., reported by letter that phlacrid beetles were working on the roots of his onions. He stated that he saw no evidence of rotting but that the onion roots seemed to be cut off square and that they appeared to be healthy, so far as anything else showed. He had a patch about a rod across where the roots were cut off and he says some of these onions still lie on the ground and are hard and sound.

BEETS

BEET LEAFHOPPER (*Eutettix tenellus* Baker)

Utah — Geo. F. Knowlton (August 8): Curly-leaf of sugar beets is appearing in varying degrees now. In some fields in Cache and Boxelder Counties there is rather severe damage, but not so bad as last year, and it appeared largely after the beets had a good start.

SUGAR-BEET NEMATODE (*Heterodera schachtii* Sch.)

Utah — Geo. F. Knowlton (August 8): The sugar-beet nematode is doing its usual damage to beets in northern Utah and where badly infested the beets are very scrubby.

WHITE GRUBS (*Phyllophaga* spp.)

Utah — Geo. F. Knowlton (August 8): White grubs are damaging sugar beets in some fields south of Logan and in Cornish.

TURNIPS

CABBAGE WEBWORM (*Hellula undalis* Fab.)

Alabama — J. M. Robinson (July 31): The turnip webworm has already appeared in considerable numbers at Seale.

CARROTS

PARSLEY STALK WEEVIL (*Listronotus latiusculus* Boh.)

Illinois — W. P. Flint (August 18): Mr. Chandler reports that the area infested by this insect is much larger than at first supposed, serious damage to carrots having occurred over several of the counties east of St. Louis.

sas J. W. McColloch (August 8): Some carrots received from Wyandotte County which were being injured by a Rhynchophora grub. These were submitted to Mr. Graf, who reported that in all probability they were the larvae of the parsley weevil.

HORSE-RADISH

HORSE-RADISH FLEA BEETLE (Phyllotreta armoraciae Koch)

York Neale F. Howard (August 7): Every petiole of horse-radish was mined by numerous larvae at Olean, in Chattaraugus County. (August 8): Quite numerous at Sherman, Chautauqua County.

o Neale F. Howard (August 14): A very heavy infestation of larvae was observed at Columbus. Pupae and larvae ready to pupate were present in the soil about the roots of the plants.

PEANUTS

A PRIONUS GRUB (probably Prionus fissicornis Hald.)

raska M. H. Swenk (July 25 to August 25): From Cherry County comes the report of the destruction of part of a field of Early Northern peanuts by Prionus grubs, probably those of P. fissicornis.

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

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

ERAL TEMENT Cooperative report on status of boll weevil and other cotton insects as of August 15, Delta Laboratory, Tallulah, La.

Weevil infestations in the infested areas have increased rapidly during the last 15 days as a result of general field migration. The continued dry weather in many localities has effected complete weevil control. In Texas injury has been reported in only a few counties on or near the coast in the southeast. In Arkansas "spotted" infestations with injury occurred in only the southern portion. In northern Louisiana "spotted" infestations occurred with severe injury in many fields and in the southern portion a high infestation prevailed generally. In Mississippi injury has occurred locally and largely in the Mississippi Delta section. Tennessee is practically free of injury. In northern Alabama, northern Georgia, western South Carolina, and western North Carolina weevil injury has been limited to local areas. Considerable injury has been reported in southern Alabama, southern and eastern central Georgia, the coastal plain section of South Carolina, and southeastern and eastern North Carolina.

Dr. F. L. Thomas (August 14): Reports of injury from boll weevils come from Fort Bend and Brazoria Counties.

A. C. Johnson: On August 3 in four fields near Port Lavaca an average infestation of 42.5 per cent was found and on August 12 in the same fields an average infestation of 51.8 per cent.

Arkansas — D. Isely (August 15): Boll weevil infestations are still local. In some fields in the southern half of the State serious injury has occurred, but the greater part of cotton in Arkansas is still free from infestation.

Louisiana — W. R. Sudduth: On August 8 in one field near timber in the Shreveport section an infestation of 54 per cent was found and in one field some distance from timber an infestation of 2.7 per cent. In different fields from the above on August 15 an infestation of 43 per cent was found near timber and 21 per cent in a field some distance from timber.

W. E. Hinds (August 17): No emergence from hibernation cages has occurred from August 1 to 15 and we have closed these tests and are now moving our cages. The latest emergence was, I believe, on June 12.

Sodium fluosilicate has given serious burning on cotton when applied with dew on the foliage and appears to have been considerably less efficient than calcium arsenate so far as boll weevil control is concerned.

Boll weevil migration has been under way since about July 15 in central Louisiana and there hasbeen no effective natural control at any time during the season and weevils have become exceedingly abundant. In spite of this fact, the weevils have been sufficiently well controlled on regular calcium arsenate dusted plats to allow fruiting to continue steadily to date (August 15): Practically no fruit has been set on unpoisoned fields in the vicinity of Baton Rouge since about July 20. The setting of bolls has not been satisfactory in this section throughout the season and regardless of weevil infestation, spacing, or other conditions. The trouble seems to be due to a combination of moisture and fertility conditions which have been more favorable to vegetative growth than to the setting of bolls.

Probably the latest poisoning of cotton for weevil control in the State this season is being done in the extreme southern part of the State. In that section two airplane dusting units have recently begun work in the vicinity of Houma and south of Abbeville.

B. R. Coad (August 15): Generally, the infestation has increased during the last 15 days owing to general field migration. Infestations range from light to complete. Severe injury has occurred in many fields in Madison Parish.

Mississippi — R. W. Harned (August 8): During the week which ended August 8 inspections were made in 15 counties on 48 farms. Weevil infestations were found on 35 farms. Infestations ranging from 0 to 90 per cent were found. The average infestation on the 35 farms was 18.4 per cent whereas on all farms the average was 13.6 per cent. The increase in infestation during the last week was 80 per cent. The heaviest infestations were found in the Mississippi Delta section. The next highest infestations were found in the northeastern section of the State and the lowest infestations in the southern portions.

Alabama — J. M. Robinson (July 31): The subject of methods for the control of the boll weevil has been one of the outstanding bits of

correspondence for the month. The work of the boll weevil has been sufficient to cause a great increase in the active control work. (August 14): Weevils are common over the southern and central portions of the State. Damage probably 3 to 5 per cent higher this year than last.

Georgia

R. P. Bledsoe (August 17): The average infestation in all experimental check plats for the past week was 21.8 per cent. Infestations ranged from 7.7 to 47 per cent. The dry weather still continues in the Piedmont section of Georgia. Squares are getting scarce, which makes the taking of infestation records rather difficult.

V. V. Williams (August 17): Weevil infestation is complete in most fields in the Valdosta section.

South Carolina

R. W. Moreland: From July 27 to August 2,12,600 squares were examined in the experimental check plats: 6,540 punctures, or an average infestation of 51.9 per cent were found. Infestation ranged from 13.5 to 83.8 per cent.

Dr. F. A. Fenton: Field-to-field movement of the weevil continued throughout the past two weeks, resulting in the heavy infestation of fields heretofore only slightly infested. This movement was accelerated over large areas owing to droughty conditions which caused a heavy shedding of squares and young bolls. This latter condition resulted in a shortage of cotton forms in which the weevil could breed. The result is that the second-brood weevils are finding very unfavorable conditions for breeding, with the exception of a few fields of late cotton or in the richer soils where the plants are still fruiting.

J. O. Pepper and C. B. Nickels (August 17): In the coastal-plain region bolls are being punctured heavily in undusted fields but less in dusted fields. Weevil injury is very light in the Piedmont section, the larger part of cotton being sufficiently mature to escape weevil injury.

North Carolina

Franklin Sherman (August 17): In the Piedmont section continued heat and drought are retarding the weevil but some dusting is being done. In eastern and southeastern sections the drought is less pronounced and infestations have continued to increase until now entire plantings are often found to need dusting and individual fields often found in which 75 to 80 per cent of the squares are punctured. More dusting is being done in this section than in previous years.

COTTON APHID (Aphis gossypii Glov.)

Georgia

Jeff Chaffin (August 5): Within the last three weeks we have received a very large number of complaints from cotton growers all over the State concerning the serious damage that is being done by the cotton lice. They are more numerous and doing a great deal more damage than in any year in the past. This can be accounted for to a

large extent by reason of the fact that the State of Georgia is dusting over 50 per cent of her cotton acreage with calcium arsenate in the control of the boll weevil. Calcium arsenate kills the lady beetle, leaving the way open for the lice to multiply very rapidly.

V. V. Williams (August 17): Lice are noticeable on many plants in most fields but it is too late for damage.

Alabama J. M. Robinson (July 31): Plant lice on cotton have been the cause of inquiries from various parts of the State.

Louisiana Dr. J. W. Folsom (August 15): No serious lice infestation. Lice are comparatively few in numbers and most of these are small individuals.

W. E. Hinds (August 17): The cotton plant louse infestations have been abundant, regardless of poisoning, but apparently average considerably heavier on areas where several applications of calcium arsenate have been made.

Arizona The Arizona News Letter, Vol. 3, No. 6, Phoenix, (June 30): A report was received from Gila Bend that the cotton aphis was becoming numerous. A request was included for leaves bearing the parasitized lice which would be distributed in the cotton fields, thus liberating the parasites as they hatched. Because of the lack of such material in the Salt River Valley it was impossible to send any relief.

COTTON FLEA (Psallus seriatus Reut.)

GENERAL STATEMENT D. M. McEachern (August 14): From July 6 to 11 six localities in Georgia, and from July 12 to 23 seven localities in South Carolina, were visited to investigate the distribution and amount of hopper injury. The only pronounced injury found was at Jefferson, Ga., and in Anderson County, S. C. Slight injury was noted in Fulton, DeKalb, and Barrow Counties, Ga., and in Pickens, Greenville, Florence, Fairfield, and Kershaw Counties, S. C. The injury appeared absolutely identical with that found in Texas.

Mississippi Clay Lyle (July 30): The cotton flea, which caused serious loss in Texas, Georgia, and South Carolina last year, was recently found in Mississippi for the first time, when D. W. Grimes, Assistant Entomologist of the State Plant Board, collected specimens of this insect on two farms in Washington County. One farm was south of Greenville and the other north of Leland so that they were about 15 miles apart. Only one specimen was found on each farm, as they are very hard to collect but R. W. Harned expresses the opinion that this insect may be widely distributed in the State already.

The so-called "fleas" are so small and active that they are not easily seen. The typical injury caused by these pests is much more noticeable than the insects themselves. In the two Washington County fields the injury was exactly similar to that reported from Texas, South Carolina, and Georgia last year. Usually the affected plants grow very tall and put on practically no limbs or fruit. This habit of growth is very characteristic, though plants are occasionally stunted or dwarfed by this pest.

R. W. Harned (July 30): Small green insects taken on cotton at A. & M. College on July 30 by A. L. Hamner and J. M. Langston. This may possibly be the cotton flea, which will make the second county infested. We already have them from Washington County. (Determined by W. L. McAtee as this species. J. A. H.)

exas — Dr. F. L. Thomas (August 14): Injury from the cotton hopper has occurred in Henderson and Harris Counties, but in general has been reported only from the northeastern section of the State.

outh arolina — C. B. Nickels (August 17): Hoppers began to migrate from cotton to croton plants during the early part of August in the Piedmont section.

ouisiana — Dr. J. W. Folsom (August 17): The hopper is common in certain fields in which there are large numbers of small blasted squares, and where many hoppers have been seen in the act of puncturing the small squares.

RED SPIDER (Tetranychus telarius L.)

orth arolina — Franklin Sherman (August 17): Light to moderate infestations of the red spider with a few severe cases reported. Light to moderate infestations of lice found in or reported from various sections; severe infestations in a few cases.

TARNISHED PLANT BUG (Lygus pratensis L.)

rizona — Arizona News Letter, Vol. 3 No. 7 (July 31): The tarnished plant bug has been responsible for the shedding of young squares of cotton in several fields near Chandler.

THRIPS (Thysanoptera)

rizona — Arizona News Letter, Vol. 3 No. 7 (July 31): The cotton thrips were observed to be very numerous in fields near Litchfield and Glendale. Many plants were showing injury from these insects.

BOLL WORM (Heliothis obsoleta Fab.)

exas — Dr. F. L. Thomas (August 14): The boll worm is abundant and causing injury in Wichita, Hall, Panola, and Tyler Counties.

rizona — Arizona News Letter, Vol. 3, No. 7, (July 31): The corn ear worm appeared in various parts of the State during July. Cotton has been attacked at Glendale, Chandler, and Goodyear. In several cotton fields near Tucson the insect has also been observed. A rose grower near Phoenix brought to the office one of these insects which had burrowed into the rose buds.

klahoma — D. Isely (August 15): Complaints of boll worm injury have been received from southern Oklahoma.

E. E. Scholl (August 20): We are now entering a campaign on cotton boll worms in the southeastern part of the State, where at least 20 counties are now infested.

Arkansas — D. Isely (August 15): There is an unusual amount of complaint of boll worm injury this season, particularly from southwestern Arkansas.

Louisiana — T. Slack (August 4): Boll worm damage has been found in one field near Lake Charles.

Dr. J. W. Folsom: Considerable boll worm injury in this section (Tallulah).

W. E. Hinds (August 17): Cotton boll worms have been the occasion of complaint by an unusual number of growers and are apparently exceptionally numerous throughout the State. Calcium arsenate as applied for boll weevil control appears to have caused a considerable decrease in the numbers of worms but has not constituted a satisfactory control for the worms.

Alabama — J. M. Robinson (August 14): Boll worms have been reported as damaging 3,000 acres of cotton in Covington County.

Georgia — V. V. Williams (August 17): A few boll worms have been found but no injury as yet.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas — S. D. Smith (August 13): Leaf worms appeared throughout the El Paso Valley on August 8 in considerable numbers. They are also reported from Artesia in southeastern New Mexico. About the first of August leaf worms appeared in the Big Bend in Texas and about the same time several reports were received regarding the occurrence in the Leguna of Mexico.

Dr. F. L. Thomas (August 14): The leaf worm is becoming generally distributed throughout the greater part of the State, extending to Terry County in the west. Forty-four scattered counties have reported infestations to date. Much damage is liable to occur on the late cotton in the northern part of the State.

A. C. Johnson (August 12): There is a considerable amount of leaf worm damage at Port Lavaca. Poison is being applied.

Oklahoma — E. E. Scholl (August 20): We are now entering a campaign against the cotton leaf worm in the southeastern part of the State, where at least 20 counties are now infested.

Arkansas — D. Isely (August 15): Leaf worms have apparently spread over the entire State during the first two weeks of August. Large worms have been collected from as far north as Craighead and Washington Counties.

Louisiana — V. S. Martin: From August 4 to 7 many fields were scouted for leaf worms in DeSoto, Caddo, and Bossier Parishes, one field of about 3 acres being found with a light infestation. From August 7 to 10 no worms were found. On August 11, of the 12 or 15 fields

inspected, 5 were infested, all of which had been poisoned. In only one of the five fields were sufficient worms present to do damage. These fields are located near Benton in Bossier Parish.

T. Slack (August 4): Severe damage was caused in a number of fields at Lake Charles. Serious damage was also reported at Grand Cheniere in Cameron Parish.

R. J. Smith (August 8): Only four comparatively heavy infestations of what might be second-brood worms have been found, These infestations were in Rapides, Grant, and Natchitoches Parishes.

Dr. J. W. Folsom (August 18): Leaf worm damage has been very local with no serious general outbreak.

W. E. Hinds (August 17): Cotton leaf worms have been reported quite commonly but usually with only a light infestation. Poisoning has been done in some localities on areas up to 50 acres, but the infestation has not become general. Applications of calcium arsenate by airplane in the vicinity of Bunkie gave completely satisfactory results within a few hours after an application of Paris green had been washed off by rain and failed to stop the cotton leaf worms.

Alabama J. M. Robinson (August 14): Leaf worms have been found as follows: Pupae in Lowndes County, adults in Marshall County, larvae in Cullman County, and larvae in Morgan County. Not very numerous at any of the points.

Mississippi Clay Lyle (July 30): That cotton worms are already appearing in this State seems highly probable, according to the following telegram just received by the State Plant Board from B. R. Coad, in charge of the Boll Weevil Laboratory at Tallulah, La.:
"Leaf worm invasion has appeared throughout northern Louisiana within past few days, and is now thoroughly distributed over this country, undoubtedly over a large portion of Mississippi as well. Poisoning already started in many places in northern Louisiana."
Not a single specimens of the cotton worm has yet been sent in for identification from Mississippi, and the Plant Board Inspectors who examine hundreds of cotton fields each week have also found no signs of cotton worm injury to this date. With this appearance in northern Louisiana, however, it will probably be only a few days until it is reported in Mississippi. This pest appeared in Mississippi in July, 1923, and stripped cotton fields over a large section of the State that summer and fall, causing considerable loss. In 1924 the first report of this worm in Mississippi reached the Plant Board office on August 28 and on account of this late appearance practically no damage resulted last year.

R. W. Harned (August 5): The first specimens of the cotton worm were received at this office on August 1 from Adams County. Specimens and authentic reports have now been received in regard to the occurrence of these insects in Adams, Hinds, Lincoln, and Washington Counties. (August 17): The cotton worm has been reported from practically all sections of the State during the last few weeks.

T. F. McGehee (August 15): Leaf worms have been found on seven farms in Marshall County but the infestations are very light as yet. A few fields have been poisoned.

TOBACCO

TOBACCO BUD WORM (*Heliothis virescens* Fab.)

Tennessee — A. C. Morgan (August 20): No injury by the tobacco bud worm has been observed at Clarksville.

Alabama — J. M. Robinson (July 31): Bud worms attacking the tender leaves of tobacco plants have been reported from Tuscaloosa district.

TOBACCO WORM (*Protoparce quinquemaculata* Haw.)

Tennessee — A. C. Morgan (August 20): Tobacco hornworms are much later than usual for the August brood and the infestation is apparently as light as we have ever recorded. This condition is ascribed to the exceedingly dry summer.

TOBACCO FLEA BEETLE (*Epitrix parvula* Fab.)

Tennessee — A. C. Morgan (August 20): The tobacco flea beetle infestation is very light at Clarksville.

SUGARCANE

SUGARCANE LEAF SCALE (*Pulvinaria iceryi* Guer.)

Porto Rico — A. H. Rosenfeld (July 1): Attention of our entomologist, Dr. H. L. Dozier, was called to a field of 5 acres belonging to a *colono* of Central Cambalache, near Arecibo, on North Coast. Investigation proved these 5 acres to be 100 per cent infested and the cane was yellowed and dwarfed as if by some blight. All stages of the insect were present except the males, which even breeding in the laboratory by Dr. Dozier failed to develop. This is the first serious outbreak of this insect reported on the island and it would be interesting to know whether it has suddenly adapted itself from some native grass or if its appearance in numbers is due to reduced parasitism for some natural cause. Coccinellidae were abundant at the time the patch was sprayed with kerosene emulsion by the owner with excellent results. Wolcott (Journ. Bd. of Agr. of P. R., Vol. 2, pp. 35, April, 1921) reports six individuals having been found.

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

GENERAL FEEDERS

BAGWORM (*Thyridopteryx ephemeraeformis* Haw.)

Kansas — J. W. McColloch (August 18): Reports of defoliation of cedars and shade trees have been rather numerous during the last month. In many places in eastern Kansas the cedars have been killed

by the activities of the bagworm the last few years. Much of the injury this year has been to boxelder.

FALL WEBWORM (Hyphantria cunea Drury)

Virginia — Herbert Spencer (August 11): Fall webworms are more abundant this fall than we have seen them in many years. The webs are very conspicuous in our woods at the present time.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

Nebraska — M. H. Swenk (July 25 to August 25): The white-marked tussock moth has continued its injuries to trees and shrubs during the period covered by this report.

ARBORVITAE

SOFT SCALE (Coccus hesperidum L.)

Wisconsin — E. L. Chambers (August 20): One of the nurseries in the southeastern part of the State had quite a general infestation of this pest on arborvitae, and several trees at Maiden Rock (Pierce County) were seriously infested.

BIRCH

BRONZE BIRCH BORER (Agrilus anxius Gory)

Wisconsin — E. L. Chambers (August 20): Eleven cutleaf birch trees were condemned in one of the nurseries in the southeastern part of the State. Several trees were killed outright by the pest.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

Massachusetts — A. I. Bourne (August 22): Mr. Lacroix, at East Wareham, reports the elm leaf beetle very abundant this season in several towns in Plymouth and Barnstable Counties. In the towns of Sandwich, Barnstable, and Yarmouth he reports the infestation so heavy that elm trees stand out very conspicuously because of the brown appearance of the foliage, due to the feeding of this insect. This report shows a degree of injury more severe than we have noted for a period of years.

California — T. D. Urbahns and assistants (August 15): All elm trees throughout Fresno County that have not been sprayed with arsenical solution are completely defoliated at this time.

ELM BORER (Saperda tridentata Ol.)

Nebraska — M. H. Swenk (July 25 to August 25): The usual number of complaints of injury to elms by the elm borer (Saperda tridentata) were received during the period covered by this report.

AMERICAN ELM SCALE (Chionaspis americana John.)

Nebraska M. H. Swenk (July 25 to August 25): The usual number of complaints of injury to elms by the white elm scale (Chionaspis americana) were received during the period covered by this report.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Wisconsin E. L. Chambers (August 19): The first record of the finding of this scale in a nursery was received when eight weeping elms were found infested in one of the larger nurseries of the State at Jefferson.

SPINY ELM CATERPILLAR (Euvanessa antiopa L.)

Nebraska M. H. Swenk (July 25 to August 25): Within the past few days a case of the stripping of elm trees by the second generation of the spiny elm caterpillar (Euvanessa antiopa) has come to our attention.

RED SPIDER (Tetranychus bimaculatus Harv.)

Nebraska M. H. Swenk (July 25 to August 25): Complaints of injury by the red spider (Tetranychus bimaculatus), which ceased about July 1, were again coming in during late July and early August, chiefly in connection with attack on elm trees.

HACKBERRY

HACKBERRY LEAF-GALL (Pachypsylla celtidis-mamma Riley)

Nebraska M. H. Swenk (July 25 to August 25): During August numerous inquiries regarding hackberry leaf-gall (Pachypsylla celtidis-mamma) were received from several central Nebraska Counties.

LOCUST

LOCUST BORER (Cyllena robiniae Forst.)

Ohio E. W. Mendenhall (August 24): There is great damage by the locust borer, all over the State, and the locust timber is being damaged.

LOCUST TWIG BORER (Ecdytolopha insiticiana Zell.)

Massachusetts A. I. Bourne (August 22): W. D. Whitcomb, at Waltham, reports under date of July 25 the locust twig borer on black locust in the vicinity of Winchester. He states that at that time the larvae were from two-thirds to full-grown, and that practically 50 per cent of the new twigs were infested and showed the typical swelling.

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Ohio D. M. DeLong (August 7): The locust leaf miner has been extremely bad in the southern part of Ohio and has practically defoliated all the locust trees, including large areas in many places. Field

observations upon soybeans in the attempt to find the amount and nature of the damage caused by the Mexican bean beetle have revealed the fact that in many areas where the locusts have been defoliated the adults of the locust-leaf miner have begun feeding very abundantly on soybeans. This has been so noticeable in many places that it has been reported by farmers and county agents. The feeding by this insect is much more severe than any feeding caused by the Mexican bean beetle upon the same crop. To the present time no egg masses have been found deposited upon soybeans and only the larvae which have migrated from other beans which were defoliated have been found upon soybeans. Feeding by the adult has been very meager in all cases.

T. H. Parks (August 19): The locust trees on the hills of southern Ohio now appear as if scorched by fire, owing to the feeding of these beetles on the foliage. They are also feeding to a less extent upon oak leaves and leaves of soybeans.

MAPLE

COTTONY MAPLE SCALE (Pulvinaria innumerabilis Rathv.)

io — T. H. Parks (August 19): We have received more specimens of the cottony maple scale than for several years. Most inquiries come from western Ohio with the statement that they are damaging maples.

sconsin — E. L. Chambers (August 19): Serious damage was expected from the cottony maple scale on some of the trees in Marshfield and an attempt was being made to wash them off with water from a power spray outfit.

FLAT-HEADED BORER (Chrysobothris femorata Oliv.)

diana — C. R. Cleveland (August 21): Flat-headed borers, probably this species, were reported from Crown Point as being very serious on a large grove of young maple trees. It was feared by the correspondent that many of the trees would be killed. We have had reports from other sources of similar injury and it appears either that these borers are on the increase in the State or that they are being more generally noticed than formerly.

PINE

A GEOMETRID (Ellopia fiscellaria Gu.)

chigan — R. H. Pettit (July 20): I am sending a sample of geometrid larvae just recently obtained from Leland, in Leelanau County away up north. These larvae are defoliating hemlock, balsam, and, to a lesser degree, white pine. C. B. Dibble, who has just returned from a trip up there, after examining into this outbreak, reports several square miles badly infested, a number of trees killed last year, and practically complete defoliation of the trees this year.

POPLAR

POPLAR BORER (Saperda calcarata Say)

Wisconsin — E. L. Chambers (August 20): About 60 trees were broken over in one of the nurseries of the southeastern part of the State because of the borer injury. The adult beetles were observed unusually thick this summer.

POPLAR MOCHA STONE MOTH (Melalopha inclusa Hbn.)

Maryland — P. D. Sanders (August 13): Young poplar trees growing in nursery rows at Pittsville were being defoliated by young larvae, possibly of the second brood. More numerous this year than last.

SYCAMORE

A MOTH (Ancylis platanana Clem.)

Ohio — E. W. Mendenhall (August 19): Destroying the leaves of the sycamore trees in Hancock County but not serious.

TULIPTREE

TULIP SCALE (Toumeyella liriodendri Gmel.)

Indiana — H. F. Dietz (July 25): I have a record of the tuliptree scale being very abundant in the vicinity of Madion (probably Madison--J. J. Davis.)

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Ohio — E. W. Mendenhall (August 5): I find that Datana integerrima, is quite troublesome on the black walnut, and some of the trees are nearly defoliated.

T. H. Parks (August 19): These caterpillars were observed to have defoliated black walnut trees in Allan County during mid-August.

Indiana — C. R. Cleveland (August 21): This species has been very prominent at many places in the State during the past month. As one drives along the highways many walnut trees are observed which are very bearly completely defoliated, owing to the work of this caterpillar.

Illinois — W. P. Flint (August 18): The handmaid moth, Datana integerrima, has caused a little more than the usual amount of damage on walnuts and hickories, many trees, both in the country and in towns, having been completely defoliated. The insects are now full-grown in the central part of the State and most of them have entered the ground for pupation.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

APHIDIDAE

ndiana — C. R. Cleveland (August 21): There have continued to be many reports of serious injury to flowering plants of various kinds, especially asters, by root lice. Previous examination in many of these cases has shown a common species to be the corn root aphid, Aphidiphis maidi-radicis Forbes, but another species has been observed which has not yet been identified. Trouble from this source is apparently steadily on the increase in the State. Infestations of root lice are always accompanied by conspicuous colonies of ants and most of our correspondents assume that the ants are doing the damage.

SNAILS

alifornia — Weekly News Letter, State of California, Vol. 7, No. 17 (August 23): Snail control has been extended with success to ridding nurseries of this pest, according to R. D. Hartman, Superintendent of the Nursery Service of the California Department of Agriculture.

The common garden snail, Helix aspersa, is considered a troublesome pest in some parts of the State. It attacks many ornamental plants in gardens and nurseries. The measure recommended for the control of snails, as given out by the California Department of Agriculture, is to first spray the premises in the evening with water, to bring the snails into activity. Then mix 1 pound of calcium arsenate with 16 pounds of wheat bran, either dry or with the addition of about 1 gallon of water. This bran mash is then thrown under buildings, among flowers, or any place inhabited by the snails.

Eight hundred pounds of this poisoned-bran mash was scattered in Beverley Hills Nurseries and 250 pounds on the Hollenbeck Estate, with satisfactory results.

DAHLIA

TERMITE (Reticulitermes tibialis Bks.)

ebraska — M. H. Swenk (July 25 to August 25): Reports of injury to a field of dahlias in Johnson County and to a house in Hall County by the termite Reticulitermes tibialis were received during the first half of August.

GLADIOLI

TWELVE-SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

ichigan — R. H. Pettit (August 21): Feeding on lima beans and gladiolus flowers, also dahlias and other flowers at Lansing.

BLISTER BEETLE (Meloidae)

Ohio — E. W. Mendenhall (August 21): On some varieties of gladioli at Sidney, the damage to the flowers is very extensive.

IRIS

IRIS ROOT BORER (Macronoctua onusta Grote)

New Hampshire — P. R. Lowry (July 22): Badly damaging iris at Claremont.

Ohio — H. A. Gossard (August 24): The iris borer was noted August 7 doing excessive damage to iris at Massillon. At that date most of the larvae were full-grown and some were transforming to the pupal stage.

MAGNOLIA

A MEALYBUG (Pseudococcus virgatus Ckll.)

Mississippi — R. W. Harned (June 29): I am mailing to you a vial that contains mealybugs from a magnolia tree which belongs to an individual in McComb. This tree is very badly infested with mealybugs. Determined as this species by H. Morrison - J. A. Hyslop.)

SPIRAEA

SPIRAEA APHID (Aphis spireaella Schout.)

Missouri — L. Haseman (June 25): This aphis has attracted attention throughout the month of June, though it is becoming less abundant toward the end of the month.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

CAT AND DOG FLEAS (Ctenocephalus canis Bouche' and C. felis Bouche')

Wisconsin — E. L. Chambers (August 19): The fleas became so thick and troublesome at Stoughton that the people were forced to vacate the house. An unsuccessful attempt had been made to fumigate the house when an appeal was made to this department for help.

A SOCIAL WASP (Vespula communis DeS.)

Nebraska — M. H. Swenk (July 25 to August 25): Citizens of Knox and Brown Counties in northern Nebraska have complained of annoyance caused by enormous colonies of the social wasp Vespula communis in the ground about their premises.

A REDUVIID

abama J. M. Robinson (July 31): One of the Reduviidae has been reported and has caused irritation to a family near Gadsden, two having been found last year and five being taken this year. The correspondence states that the house was free from bedbugs.

HORSES

THROAT BOT FLY (Gastrophilus nasalis L.)

hio F. C. Bishopp (July 28): The throat bot fly put in its appearance in the vicinity of Columbus about July 1. It is causing some annoyance to horses at this time but is not very abundant yet.

NOSE BOT FLY (Gastrophilus haemorrhoidalis L.)

hio F. C. Bishopp (July 29): The examination of the digestive tracts of a number of horses and observations on horses on farms indicate that the nose bot fly is not present in the vicinity of Columbus. Reports from certain farms suggested its presence but these are almost certainly erroneous.

HORSE BOT FLY (Gastrophilus intestinalis DeG.)

hio F. C. Bishopp (July): The adults of this species began to appear and attack horses about July 1 at Columbus. By July 17 nearly all horses had an infestation of from 75 to 300 eggs each.

anada F. C. Bishopp (July 25): Horses at Pelee Island, Ontario, are infested with eggs of the common horse bot. The number of eggs apparently averages about 200 per animal.

CATTLE

STABLE FLY (Stomoxys calcitrans L.)

hio F. C. Bishopp (July): The stable fly has caused serious annoyance to stock during the entire month at Columbus and in the northern part of the State. Many dairymen are spraying but even then the herds spend much of the time standing in water or shade fighting the flies.

anada F. C. Bishopp (July 25): Stock are sorely annoyed by swarms of stable flies at Pelee Island, Ontario. Dogs have their ears raw from their bites and as many as 35 flies were observed biting one ear of a dog at one time.

HORN FLY (Haematobia irritans L.)

hio F. C. Bishopp (July): Throughout the month of July horn flies have been a very annoying pest to cattle at Columbus. By the middle of July they had increased so that their numbers ran from 20,000 to

5,000 per head on cattle which were not sprayed. Spraying at milking time was carried out on most dairy herds during the month. Some report considerable reduction in milk flow from the combined attack of horn flies and stable flies.

Texas O. G. Babcock (August 22): More numerous than normally for this time of the year at Sonora, owing apparently to local showers over this section of the country.

OX WARBLE (Hypoderma bovis DeG.)

Ohio F. C. Bishopp (July): The cattle in the northern half of the State became free of northern cattle grubs in their backs about July 1. The annoyance due to the attack of the flies began to subside markedly after July 15.

SCREW WORM (Cochliomyia macellaria Fab.)

Ohio and Canada F. C. Bishopp (July 25): Screw worm flies (Chrysomya macellaria) were observed in moderate numbers on dead fish on South Bass Island, Ohio, and Pelee Island, Ontario. The proportion of the different species of flies on fish was about as follows:

	Per cent		Per cent
Phormia regina	76	Lucilia caesar	5
Chrysomya macellaria	4	Lucilia sericata	2
Sarcophaga spp.	5	Musca domestica	6
Muscina stabulans	2	P. terrae-novae	none were seen

Texas O. G. Babcock (August 22): More numerous this month than normally at Sonora. Practically 100 per cent screw worm cases in calves castrated and born this month.

POULTRY

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Alabama J. M. Robinson (July 31): The hen flea or sticktight flea of poultry was reported as being abundant at one locality.

Texas F. C. Bishopp and H. M. Brundrett (June 15): West of Brownwood the sticktight flea is reported to have been very little more abundant this spring than usual. At this date their numbers appear to be increasing. This is an important pest every year in this section. Between Brownwood and Fort Worth the insect seems to have been more abundant and destructive this spring than normally.

HENHOUSE BEDBUG (Haematosiphon inodorus Duges)

Kansas J. W. McColloch (August 3): Bedbugs are reported very numerous in a poultry house at Elbing.

INSECTS INFESTING HOUSES AND PREMISES

EUROPEAN EARWIG (Forficula auricularia L.)

w York — E. P. Felt (August 3): Regarding the earwig infestation at East Aurora, an examination last week showed the insect to be present, in one case at least, in considerable numbers and apparently somewhat widely distributed in the village, though no general complaint has been made and it is quite probable that many simply overlook the insect. There were very few about the premises originally reported as infested, though three blocks away there was a very considerable colony under the loose bark of an elm log kept as a trap. The insects appear to be more troublesome by getting into the house or on the laundry than on account of injuries to plants.

egon — Oregon Daily Journal, Portland, (July 31): After having covered approximately half of the territory within the city limits of Albany with earwig poison during an "anti-earwig" campaign last week, local people have launched a second and "follow-up" campaign which will aim toward covering the entire city and killing earwigs hatched out since. The poison will be sold at cost at the city hall, under auspices of the City Government. More than 1,000 pounds of earwig poison was distributed to local people during the last campaign.

BOOK LICE (Atropidae)

io — T. H. Parks (August 19): Letters from Dayton and Cambridge report houses overrun with these insects. Specimens were submitted August 14 and 15. Superheating is being attempted to eradicate them.

TERMITES

ssissippi — R. W. Harned (July 30): Termites were taken on soybeans at Holly Springs on July 21 by T. F. McGehee.

COCKROACHES

nsas — J. W. McColloch (August 1): Cockroaches have been giving considerable trouble in a few houses at Manhattan and in a cafeteria at Topeka.

EUROPEAN CRICKET (Gryllus domesticus L.)

llinois — W. P. Flint (August 18): An outbreak of the European cricket occurred in Joliet, the outbreak apparently originating from a city dump, which was overgrown with weeds, where garbage of various kinds had been accumulating. The crickets invaded near-by houses and caused more or less annoyance.

CARPENTER BEE (Xylocopa virginica Drury)

nsas — J. W. McColloch (July 18): Specimens of this bee were received from a farm near Lawrence with the information that they were seriously undermining the rafters in the farm buildings.

TINY RED ANT (Monomorium pharaonis L.)

Wisconsin — E. L. Chambers (August 20): One of the largest hotels in southeastern Wisconsin was found overrun with red ants. They were a nuisance all through the hotel from lobby and kitchen to the upstairs rooms. The management claim that they came in on the laundry. The front plate glass window was lined with hundreds of them trying in vain to climb up.

STORED-GRAIN INSECTS

MEDITERRANEAN FLOUR MOTH (Ephestia kuehniella Zell.)

Kansas — J. W. McColloch (August 6): This insect is causing considerable trouble in a mill at Wilson.

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella Oliv.)

Kansas — J. W. McColloch (July 31): An elevator company at Emporia reports the moths abundant in their storage bins.

NOTES FROM THE FEDERAL HORTICULTURAL BOARD, June 15, 1925.

INTERCEPTIONS

About the first of June an express parcel arrived at San Francisco, Calif., from Hawaii, marked "Jams." Upon examining it, the collaborators of the Board found it to contain mangos and cooking bananas. This interception represented a deliberate attempt to violate Quarantine 13. The mangos were found to be infested with maggots of the Mediterranean fruit fly. The fruit was shipped in a pasteboard box, thus affording every opportunity for the maggots to escape. Steps have been taken to bring about the prosecution of the shipper.

An identification was recently received for specimens of the Mediterranean fruit fly (Ceratitis capitata) which were taken by the inspectors at Boston on May 28 from loquats arriving by mail from the Azores. There were three boxes of loquats in the consignment, each containing about six quarts. The loquats were packed in sawdust and shredded corn husks.

Since the last Letter of Information was issued, several identifications have been received for specimens of Anastrepha ludens Loew, the Mexican fruit fly, intercepted at Mexican border ports in mangos from Mexico. Collections were made at Brownsville, Tex., on June 1; at El Paso, Tex., on May 13, and at Laredo, Tex., on April 14, May 25, and June 3.

Larvae and pupae of the West Indian fruit fly, Anastrepha fraterculus Wied., were found by inspectors at Philadelphia on May 25 and at New York on June 11 infesting mangos from Jamaica.

A larva and pupa case of an unidentifiable species of Anastrepha were collected by inspectors at New Orleans inside of a mango from Spanish Honduras on May 19.

Thirty-five fruits of cherimoya were brought in in the baggage of a passenger arriving at New York from Peru on June 1 which, when found and examined by an inspector of the Board, proved to be infested with dipterous larvae. Fifteen larvae were collected. The specialist of the Bureau of Entomology could only identify them as to genus. They were classified as Anastrepha sp.

INSECT PEST SURVEY BULLETIN

Vol. 5 October 1, 1925 No.7

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR THE MONTH OF SEPTEMBER 1925

Grasshoppers seem to be much more prevalent than usual throughout the New England and Middle Atlantic States, extending westward into the Ohio River Valley to Missouri.

Hessian fly emergence is reported as having been first noted in Indiana and Illinois on September 13. Between 10 and 20 per cent of the plants contained eggs on that date at Lafayette. Completed report on losses occasioned by this pest is contained in this number and indicates that 40,000,000 bushels of wheat were lost as a direct result of infestation by this insect. The situation still appears very serious in Kansas, and the fall brood was recorded as having emerged about the middle of August. A detailed statement of results from the Hessian fly field stations in Nebraska is contained in this number of the Bulletin. Egg laying was first observed on August 31. This, however, was sporadic and no further significant egg laying was observed until September 17. From that date to the 24th egg laying rapidly increased and was still heavy when the last report was received (September 25).

The chinch bug is reported as increasing in threatening numbers in the northeastern part of Indiana. This insect is also threatening a considerable area in Illinois and Missouri. Heavy increase is also reported in Nebraska.

The corn ear worm is again prevalent in the southern New England States, Middle Atlantic States, and the Upper Mississippi Valley. Heavy flights were observed in late September in Connecticut and about the middle of September in Indiana and Illinois.

The apple maggot is reported as unusually abundant in Massachusetts and eastern New York and is doing considerable damage in a few localities in Indiana and Michigan.

The San Jose scale was reported as serious in Virginia, Georgia, and Illinois.

The Oriental peach moth is now well established in the Sandhill section of North Carolina. Up to this year this pest was only known from Raleigh and Wilmington in this State.

The Mexican bean beetle is reported from the following additional counties in Indiana: Wayne, Dubois, Martin, Spencer, and Perry. In the current year it has extended its range westward in Kentucky to Christian, Hopkins, McLean, and Hancock Counties, and in Tennessee to Stewart, Benton, and Decatur Counties.

A very serious outbreak of the beet webworm is reported from the Norfolk district of Virginia, some fields having been entirely stripped by this pest. In Nebraska and Kansas a very heavy infestation on Russian thistle is reported, and in northern Utah and southern Idaho this insect is doing considerable damage to the sugar beets.

The most serious infestation of cotton by the bean thrips ever recorded occurred this year in southern California.

In this number of the Bulletin is a general summary of this year's developments of the gipsy moth, brown-tail moth, Oriental moth, and satin moth from the Melrose Highlands Laboratory of the Bureau. During the summer the gipsy moth infestation was generally light except in the Cape Cod section. In the New Jersey infested area there was less infestation than any time since the discovery of this insect in the State. The brown-tail moth situation seems to be about the same as reported last year. Apparently the satin moth has spread greatly during the past season. Poplars and willows were entirely defoliated in many towns from Cape Cod to the southern part of Maine. The range of this pest is now recorded as extending northward to Warren, Me., and Moultonborough, N. H., westward to Wilton and Mason, N. H., and Worcester, Mass., and as occupying the eastern third of Rhode Island.

A serious infestation of a spanworm on larch, Ellopia fiscellaria Guen., is reported from Wisconsin and Michigan.

Infestation of pine by Colaspis sp., in Louisiana, upon which we reported in a previous number of the Bulletin, seems to be decidedly worse than last year, many trees being from half to three-quarters defoliated.

During the month of September very heavy infestations by fleas have been reported from Kansas, Missouri, and Ohio.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR SEPTEMBER, 1925

The poplar vagabond gall, Nordvilkoja vagabunda, is exceedingly abundant the Prairie Provinces this season.

The European bark louse, Cryptococcus fagi Barenspr., is abundant on dying ech trees throughout a considerable portion of central Nova Scotia, and at arlottetown, Prince Edward Island.

The outbreak of spruce budworm, Harmologa fumiferana Clem., in the Thor ke and Thunder Bay districts of Ontario is active again this year.

The corn ear worm has been responsible for serious losses to growers of eet corn throughout the lower St. John River Valley, New Brunswick, and at Kent-ile and Middleton, Nova Scotia.

Grasshoppers have been responsible for considerable injury to crops in the ttle River Valley, in southern British Columbia, especially around Midway and ck Creek.

The Colorado potato beetle has become firmly established in the southeastern rner of British Columbia, all potato fields in the Cranbrook area now being in-sted. In Alberta, this insect has been less abundant than for three years past, d appears to be on the decrease.

The rose leafhopper is quite abundant in some apple orchards of the Niagara strict, Ontario, this season.

Additional outbreaks of the codling moth in British Columbia have been re-rted from Nelson, Penticton, and Salmon Arm.

The common housefly has been found in the Banff district, Alberta, at an titude of 7,000 feet, many miles from any habitation.

Insect injuries to shade trees in the Prairie Provinces have been much ss severe this year than usual.

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Massachusetts — H. T. Fernald (September 22): Grasshoppers, very generally throughout the State, have been unusually abundant this last month. No particular complaints of unusual injury have been received, but fields and seeded areas and, in some cases, garden crops have shown an unusually large number of these insects. In one or two cases garden crops have suffered severely as a result of the feeding of the grassjoppers.

Connecticut — W. E. Britton (August 15): An owner at Guilford purchased materials to make poisoned bait but before he put it out grasshoppers seemed to disappear. A 10-acre field of alfalfa was reported as quite badly eaten. More abundant this year.

New York — A. D. Long (August 1): A veritable scourge of grasshoppers in many localities in Orange County on oats, alfalfa, and fruit trees.

Ohio — G. A. Runner (September 1): Grasshoppers are unusually abundant in meadows in many localities near Sandusky.

E. W. Mendenhall (September 11): The grasshoppers are very numerous all over the State and are doing considerable damage to forage crops.

Indiana — J. J. Davis (September 24): Grasshoppers are more or less abundant throughout the State, damaging vegetable and flower garden plots, corn, clover, and alfalfa. Melanoplus femur-rubrum DeGeer is the predominant species although in some few localities M. differentialis Thos. is the species most destructive.

Illinois — W. P. Flint (September 19): Reports of scattered areas heavily infested by grasshoppers continue to come into the office. From field examinations of some of these areas the species Melanoplus femur-rubrum has caused more than 90 per cent damage. Mating is just starting. No egg laying has been observed to date.

Missouri — L. Haseman (September 22): Following the hay harvest the concentration of grasshoppers on corn and other crops has created considerable alarm and they have done considerable damage. There has not been a general epidemic, but an abundance of them over a wide area.

WHITE GRUBS (Phyllophaga spp.)

Kansas — J. W. McColloch (September 10): White grubs are reported killing blue grass lawns at Larned.

Texas — Cooperative Report on status of cotton insects as of August 15: F. L. Thomas (August 14): The wingless May beetles have been reported at Amarillo in the Panhandle.

CUTWORMS (Noctuidae)

Virginia — Herbert Spencer (August 28): Cutworms are doing considerable damage to the plantings of kale in our trucking section. The growers are using poisoned-bran bait with good success.

WIREWORMS (Elateridae)

Utah — G. F. Knowlton and R. Christensen (September 18): Wireworms did serious damage to wheat in the vicinity of Tooele in the early part of the summer.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Indiana — W. B. Cartwright (September 19): Oviposition of the Hessian fly on volunteer wheat has been noted since September 18 with infestation by eggs of between 10 and 20 per cent of the plants examined at Lafayette.

Illinois — W. P. Flint (September 19): During most of the last month the weather has been sufficiently dry so that very little emergence of the fly has occurred. In the last week heavy rains have occurred over most of the State and adults of the Hessian fly are now beginning to come out. Daily examinations made at Urbana of wheat sown August 31 failed to show any eggs until September 18, when a few eggs were found. It seems probable that heavy emergence will occur during the next week.

Missouri — L. Haseman (September 22): The situation on this pest has not changed during the last month. There is an abundance of volunteer wheat this fall, but the wheat growers are adhering to the fly-free date and are eliminating much of this volunteer wheat.

Kansas — J. W. McColloch (September 22): We have now completed the analysis of the data on losses caused by the Hessian fly to the 1925 wheat crop. Figures show that this insect reduced the Kansas wheat crop by at least 40,000,000 bushels. During the last month we have made a survey of field conditions and we find that the Hessian fly situation is still alarming. Flaxseeds are numerous in the old stubble throughout the State. For the most part there has been very little emergence during the summer, although there has been an abundance of volunteer wheat. In one area, extending from Ford County to Ellis County, there was a very heavy midsummer brood on volunteer wheat. Just what conditions produced this midsummer brood is somewhat obscure, but apparently it was a combination of two heavy rains, one coming

about the 20th of July and the second about the 1st of August. Samples of volunteer wheat collected at Hays and in southeastern Ford County had as high as 30 flaxseeds per culm on August 20. Fall emergence is now taking place in this volunteer wheat.

There has been a determined effort on the part of the farmers in many counties to follow the program recommended for Hessian fly control. Early harvest this year made early seedbed preparation possible, and there has been ample opportunity to keep down volunteer wheat and prepare a good seed bed. As a result, in some counties every stubble field was turned under by the middle of July and at present it is difficult to find volunteer wheat. Good rains the last few days have put the ground in excellent condition, so that wheat sowing can be delayed until the recommended date with safety. Most of the flaxseeds now contain pupae of the fly and it is expected that the recent rains will bring out the adults within the next few days.

Nebraska M. H. Swenk (September 23): Two Hessian fly field observation stations have been established this fall to determine the earliest safe wheat sowing date to avoid damage by the Hessian fly, one west of Millard (station No. 1), in Douglas County, and the other east of Hastings (station No. 2), in Adams County. The following results have been obtained to date:

Date	Station	Number of puparia per 100 stubble	Number of flies emerged	Number of eggs laid on 100 plants
Aug. 27	1	-	12	0
" 28	1	310	16	0
" 29	1	239	10	0
" 30	1	250	12	0
" 31	1	240	2	27
Sept. 1	1	280	6	11
" 1	2	313	0	0
" 2	1	307	0	1
" 2	2	277	0	0
" 3	1	308	1	0
" 3	2	221	0	0
" 4	1	233	0	0
" 4	2	321	0	0
" 5	1	243	0	0
" 5	2	254	0	0
" 6	1	302	3	1
" 6	2	269	4	0
" 7	1	434	14	0
" 7	2	309	19	0
" 8	1	430	1	0
" 8	2	291	54	0
" 9	1	374	2	0
" 9	2	304	72	0
" 10	1	317	1	0
" 110	2	337	106	0
" 11	1	255	1	0
" 11	2	329	40	0
" 12	1	230	0	0
" 12	2	356	66	0
" 13	1	287	0	6
" 13	2	325	16	0

Date	Station	Number of puparia per 100 stubble	Number of flies emerged	Number of eggs laid on 100 plants
Sept. 14	1	235	0	0
" 14	2	267	7	0
" 15	1	411	0	0
" 15	2	319	54	0
" 16	1	333	2	6
" 16	2	267	8	0
" 17	1	234	11	23
" 17	2	284	72	0
" 18	1	316	12	24
" 18	2	281	297	18
" 19	1	355	92	103
" 19	2	305	110	24
" 20	1	348	0	108
" 20	2	282	291	82
" 21	1	488	216	36
" 21	2	243	65	33
" 22	1	526	2	38
" 22	2	296	30	1
" 23	1	411	231	9
" 23	2	282	516	309
" 24	1	427	251	102
" 24	2	275	199	122
" 25	1	396	24	104
" 25	2	474	204	173

JOINTWORM (*Harmolita tritici* Fitch)

Missouri L. Haseman (September 22): From our Hessian fly inspection we have found an alarming infestation of the jointworm in a number of sections south of the Missouri River.

FALSE WIREWORM (*Eleodes opaca* Say)

Kansas J. W. McColloch (September 12): The false wireworm is reported at Ulysses destroying seed wheat as fast as it is planted. Soil is very dry and germination is slow.

CORN

CHINCH BUG (*Blissus leucopterus* Say)

Indiana J. J. Davis (September 24): The chinch bug has not done much damage this year but is increasing to conspicuous numbers in the northeastern part of the State.

Illinois W. P. Flint (September 19): During the last month the weather has, on the whole, been favorable to the development of second-brood chinch bugs, and although heavy rains have killed a few of the young bugs in some sections these rains have not been sufficiently heavy to make any material reduction in the number of bugs, and we still expect damage over considerable areas of the State next year. Some flight to winter quarters took place on September 17.

Missouri — L. Haseman (September 22): No appreciable damage was done this year in Missouri by the spring or the summer broods, but in late September many of the cornfields are being found literally alive with the adult chinch bug and the prospects are good that a heavy brood will go into winter quarters in this section of the State.

Nebraska — M. H. Swenk (August 25-September 25): The chinch bugs increased very greatly in abundance because of the successful rearing of the second generation last month and from present indications will go into hibernation in larger numbers over the infested area than they did a year ago.

CORN EAR WORM (Heliothis obsoleta Fab.)

Connecticut — J. L. Rogers (September 21): Moths were flying about hillside, resting on goldenrod. In Bridgeport and New Haven they were observed resting on building near the arc lights. About a 75 per cent increase in the Bridgeport district.

New York — D. L. Hayes (August 1): Considerable loss was occasioned in one large cornfield in Genesee County by the corn ear worm.

Indiana — H. F. Dietz (September 21): Corn ear worm moths were present in a heavy flight at Indianapolis on September 14 and 15 and at Goshen September 16. These moths are still flying in lesser numbers at the present time.

Illinois — W. P. Flint (September 19): A very heavy flight of moths of this insect has been occurring during the last week. Eggs are very abundant on Indian mallow, late corn, and other plants which the insect infests. In some cases large numbers of the eggs of this insect have been found on the heads of fox-tail grass. Recent counts made in fields of corn in the vicinity of Urbana show an average infestation running from 50 to 55 per cent and in a few fields as high as 80 per cent of the ears have been found infested. This infestation is largely by late-brood worms which have hatched during the past two or three weeks.

Michigan — R. H. Pettit (September 1): There exists in the State a belief that sweet corn is poisonous this year for human consumption. This is owing to warnings sent out in other years against feeding green corn affected by the corn ear worm to horses and hogs, together with the quarantine activities which are, of course, new here and which seem to have disturbed the peace of mind of the myriads of tourists who come through Michigan every year to escape hay fever. I am getting inquiries through the mail daily besides answering questions whenever I appear on the street.

Missouri — L. Haseman (September 22): This insect was relatively unimportant until late summer when late sweet and field corn became severely attacked in the central part of the State.

ALFALFA

FALL ARMYWORM (*Laphygma frugiperda* S. & A.)

Michigan — R. H. Pettit (September 23): For the first time this year we have met the fall armyworm working in sweet corn at Goodrich, Genesee County. The specimens are not more than half grown but they are reported as plentiful.

GARDEN WEBWORM (*Loxostege similalis* Guen.)

Kansas — J. W. McColloch (September 10): Webworms are proving troublesome in some alfalfa fields near Hutchinson, Reno County.

ALFALFA CATERPILLAR (*Eurymus eurytheme* Boisd.)

Arizona — Arizona News Letter, Vol. 3, No. 8 (August 31): The alfalfa butterflies were abundant in the Salt River Valley during the early part of the month. Automobiles traveling through the alfalfa districts had their radiators copiously adorned with the bodies of these butterflies.

APHIDAE

Utah — George F. Knowlton (September 18): Aphids are still numerous in alfalfa fields in northern Utah where the hay is green.

TARNISHED PLANT BUG (*Lygus pratensis* L.)

Illinois — W. P. Flint (September 19): Adults of this insect have been noted in great abundance in all fields of legumes, particularly soybeans and alfalfa.

VELVET BEAN

VELVET BEAN CATERPILLAR (*Anticarsia gemmatilis* Hbn.)

Florida — J. R. Watson (August 29): The velvet bean caterpillar is beginning to do considerable damage to velvet beans in the peninsular part of Florida. This insect has not, for several years past, been as destructive as formerly.

GRASS

A LEAFHOPPER (*Draeculacephala mollipes* Say)

Indiana — H. F. Dietz (September 21): The leafhopper *Draeculacephala mollipes* Say appeared in large swarms around lights at Anderson and Indianapolis on the night of September 17.

LEAFHOPPERS

Nebraska — M. H. Swenk (August 25-September 25): On the nights of September 17 to 19 large swarms of leafhoppers of several species descended

upon Lincoln to the intense annoyance of all persons working around lights. Some of the stores were forced to close early because of the clouds of insects that were attracted into them by the lights.

BUCKWHEAT

BEAN APHID (*Aphis rumicis* L.)

New York — C. R. Crosby (September 2): Badly infested buckwheat was received from Elmira.

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

APPLE

APPLE APHID (*Aphis pomi* DeG.)

New York — C. R. Crosby (August 8): Severe injury to the fruit was noted in one instance in Monroe County.

CODLING MOTH (*Carpocapsa pomonella* L.)

New York — C. R. Crosby and assistants (August 1): During the first week in August considerable injury was reported from Columbis and Greene Counties.

Illinois — W. P. Flint (September 19): As was expected, third-brood and late second-brood larvae of this insect have been unusually abundant and caused heavy infestation in all but the most carefully sprayed orchards.

Missouri — L. Haseman (September 22): This insect seems to be about normal with other years. In the hail-swept sections of central Missouri it has been difficult to protect the fruit against the pest but there is no unusually heavy epidemic reported from the apple-growing sections of the State.

LEAF CRUMPLER (*Mineola indiginella* Zell.)

Missouri — L. Haseman (September 22): The apple leaf crumpler has been more abundant than usual this summer, particularly on young fruit trees.

LESSER APPLE WORM (*Laspeyresia prunivora* Walsh)

Massachusetts — W. D. Whitcomb (September 22): A few typical excavations containing half-grown larvae were found in McIntosh and Wealthy apples at Littleton and Gleasondale.

New York — D. L. Hayes (August 1): An unusually large amount of injury is being caused by this pest in Genesee County.

A. B. Burrell (August 8): This pest is present in Ontario County in equal proportions to the codling moth in many instances.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Massachusetts A. I. Bourne (September 22): This generation of the apple and thorn skeletoniser larvae, which are maturing about this time, is unusually large. It has been our experience heretofore in this State that our worst trouble has come from the larvae of the brood which matures about the last of July or early August and we have had very little trouble with the generation which is maturing at this season.

BUD MOTH (Tmetocera ocellana D. & S.)

Massachusetts W. D. Whitcomb (September 22): Typical summer injury observed in several orchards at Littleton.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Missouri L. Haseman (September 22): This pest has appeared in greater abundance in Missouri, particularly in southwestern Missouri, then we have ever known it before.

FALL WEBWORM (Hyphantria cunea Drury)

New York W. D. Mills (August 15): Infestations on apple and pear are more commonly found this season than last im Wayne County. It is not a serious pest, however.

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

New York A. D. Long (August 1): Slight infestations of apple and pear have been noted on several occasions in Orange County.

Missouri L. Haseman (September 22): Throughout central Missouri a general though not unusually severe epidemic has occurred.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Indiana J. J. Davis (September 24): The yellow-necked apple caterpillar is responsible for defoliating apple trees in several sections of central Indiana.

Missouri L. Haseman (September 22): This has accompanied the red-humped apple worm.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Massachusetts A. I. Bourne (September 22): I find that very generally over the State the apple maggot, or railroad worm, is unusually abundant. It is particularly bad on Wealthies, the apples of this variety being infested to an unusual degree, at least for Massachusetts. There has also been some injury found on the early pickings of McIntosh.

New York — C. R. Crosby and assistants: In the first week in August an unusually large infestation was reported from the eastern part of the State in Columbia and Dutchess Counties. Where two sprays were not applied large losses will undoubtedly be sustained.

Indiana — J. J. Davis (September 24): The apple maggot was reported doing considerable damage to apple in an orchard at Goshen.

Michigan — R. H. Pettit (September 1): I received yesterday a quantity of adult flies of the apple maggot. This material came from Stockbridge, and samples of apples from this orchard show the presence of the apple maggot in excessive numbers, even Spies having been attacked. The owner of the orchard reports that the apples have received six arsenical sprays, the first three having been combination sprays of lime-sulphur and arsenate of lead and the last three, beginning the first of July, were sprays of arsenate of lead and molasses without lime-sulphur.

APPLE LEAFHOPPER (Empoasca mali LeB.)

New York — A. B. Buckholz (August 1): Slight injury noted in Columbia County.

ROSE LEAFHOPPER (Typhlocyba rosae L.)

Massachusetts — W. D. Whitcomb (September 22): Several poorly-cared-for trees are very heavily infested and showing much injured foliage on lower branches at Littleton.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Virginia — W. S. Hough (September 12): The San Jose scale made its appearance on the fruit in a number of large apple orchards at Winchester in August. From such orchards much fruit is now going to the canning factories and cider mills as a result of this outbreak. All orchards which received a thorough application of winter-strength lime sulfur at the time of the delayed dormant spray are free from the scale on the fruit.

Georgia — O. I. Snapp (September 15): The San Jose scale has increased very rapidly in Georgia peach orchards during the summer.

Illinois — W. P. Flint (September 19): The dry, hot weather of the summer has been particularly favorable to this insect and orchards that were not carefully sprayed last winter are now showing a considerable infestation. With at least one generation still to appear there will be need of special effort in controlling this pest during the coming winter.

Missouri — L. Haseman (September 22): Through the early summer the scale showed no signs of severe increase and this fall we find it still far behind normal abundance on unsprayed trees.

SCURFY SCALE (Chionaspis furfura Fitch)

Indiana — J. J. Davis (September 24): I continue to receive reports of abundance in apple orchards throughout the State.

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

New York — C. R. Crosby and assistants: During the first week of August reports of considerable burning of leaves due to this pest were received from Greene and Dutchess Counties.

Ohio and Pennsylvania — G. A. Ruhner (August 27): Injury to peach, apple, and plum from the European red mite is severe in many localities in northern Ohio and Pennsylvania.

Michigan — R. H. Pettit (September 22): Miss McDaniel reports to me the finding of the European red spider at St. Johns on apples. The finding was made on the 14th of September and the infestation seems to be fairly serious.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

New York — C. R. Crosby and assistants: During the first part of August reports from the eastern fruit-growing section of the State indicated that damage by this pest was considerably less than usual. Similar reports were received from the western fruit-growing section.

PEACH

PEACH TREE BORER (Aegeria exitiosa Say)

Georgia — O. I. Snapp (September 15): Paradichlorobenzene will again be used extensively for the control of the peach borer. Preparation is being made to place out the material in Georgia next month and it will perhaps take 500,000 pounds to meet the demand in the Southeast this year.

Ohio — E. W. Mendenhall (September 24): I find the peach tree borers are very numerous this year in nursery trees and peach orchards. The treatment of paradichlorobenzene seems to be successful in 4- or 5- year-old trees and it is being used quite extensively in peach orchards in Ohio. The infestation of nursery trees is another proposition and many of the trees are ruined for the market and are a loss to the nurseryman.

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

Georgia — O. I. Snapp (September 18): This insect is present in numbers at Woodbury feeding on the foliage of peach trees in home orchards.

ORIENTAL PEACH MOTH (Laspeyresia molesta Busck)

Connecticut — Philip Garman (September 23): In two orchards where experimental work was done the infestation varied from 22 to 46 per cent in untreated plots. Loss in one large orchard near Wallingford was estimated at 30 per cent for the entire orchard. Infestation was light, apparently, in most other places.

North Carolina — R. W. Leiby (September 18): The oriental fruit moth has appeared this season throughout our commercial Sandhills peach section in potentially threatening numbers, although fairly thorough scouting last year indicated its entire absence. Complaints have also been received from the Piedmont area this season. Prior to 1925 it was known to occur only at Raleigh and Wilmington. In the season of its first occurrence (1925) in the Sandhills from 2 to 3 per cent of the latest commercial variety of peaches (Augbert) showed fruit infestation.

Georgia — O. I. Snapp and assistants (September 15): Sixth-generation moths are now emerging in the insectary. There will be a partial seventh generation here this year.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Mississippi — R. W. Harned (September 26): The fruit tree barkbeetle, Scolytus rugulosus Ratz., seems to be more abundant and causing more damage than usual to peach trees. The long drougths during the summers of 1924 and 1925 have probably helped to make conditions favorable for rapid increase of these insects. Reports of their work have been received from many parts of the State.

PEACH BARK BEETLE (Phloeotribus liminaris Harr.)

Ohio — G. A. Runner (September 10): The peach bark beetle is abundant in older trees in many orchards in northern Ohio.

GREEN SOLDIER BUG (Nezara hilaris Say)

Ohio — G. A. Runner (September 10): The green soldier bug has caused serious damage to peaches in a number of localities in northern Ohio.

CHERRY

PEAR AND CHERRY SLUG (Caliroa cerasi L.)

Connecticut — W. E. Britton (August 31): Large trees at Stamford and Cromwell were brown from larvae feeding. Usually seen injuring young trees.

RASPBERRY

BLACKBERRY PSYLLID (Trioza tripunctata Fitch)

Michigan — R. H. Pettit (August 28): C. W. Bennett, of the Botany Department brought in a beautiful case of blackberry psyllid, which I

believe constitutes the first record for Michigan. It was obtained north of Traverse City, where it was working on wild raspberries. He reports it as very abundant.

GRAPE

GRAPEVINE APHID (Macrosiphum illinoisensis Shim.)

New York — A. D. Long (August 8): Unusually abundant in several vineyards in Orange County.

GRAPE LEAF SKELETONIZER (Harrisina americana Guerr)

Arizona — Arizona News Letter, Vol. 3, No. 8 (August 31). The grape leaf skeletonizer was found to be present in a vineyard near Glendale. Several vines were slightly injured before the insects were checked.

GRAPE LEAFHOPPER (Erythroneura comes Say)

Nebraska — M. H. Swenk (August 25-September 25): Several reports of injury to grapes by the grape leafhopper were received during late August and the first week in September from various parts of eastern Nebraska.

CRANBERRY

CHAIN-SPOTTED GEOMETER (Cingilia catenaria Drury)

Connecticut — J. L. Rogers (September 21): A few of the moths were about the buildings in Bridgeport district. About a 50 per cent decrease this year.

CRANBERRY FLEA BEETLE (Sesstena pallicornis Schif.)

Massachusetts — A. I. Bourne (September 22): Mr. Lacroix, of the Cranberry Substation at Wareham, reports that the cranberry flea beetle is more abundant than ever recorded in Plymouth County.

PECAN

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Olivr.)

Arizona — Arizona News Letter, Vol. 3, No. 8 (August 31): Two plantings of young pecan trees were found to be infested with the larvae of the flat-headed apple-tree borer. The young trees became completely girdled by the action of the larvae working in the outer wood just beneath the bark of the trees.

Recently in the local papers several articles have appeared giving information concerning the "worm" which is reported as either killing or seriously damaging young pecan trees throughout the valley. Although these articles have all contained some correct data on the work and habits of this insect they were evidently prepared by persons having a very meager knowledge of the life history and habits of the insect.

RED-SHOULDERED SHOT-HOLE BORER (Xylobiops basilaris Say)

Mississippi — R. W. Harned (September 26): The red-shouldered shot-hole borer, Xylobiops basilaris, has been received from pecan trees at several points in the State.

WALNUTS

WALNUT BLISTER MITE (Eriophyes tristriatus Nalepa)

Arizona — Arizona News Letter, Vol. 3, No. 8 (August 31): The walnut blister mite was sent in from Safford by District Inspector Mondenhall, who reported that the insects were causing serious injury to seedling walnuts planted in a nursery at that place.

CITRUS

MELON APHID (Aphis gossypii Glov.)

Florida — J. R. Watson (August 29): The melon aphid has been more abundant than usual during last summer in citrus groves.

APPLE APHID (Aphis pomi DeG.)

Florida — J. R. Watson (August 29): The green apple aphid is still much in evidence in citrus groves, although prevented from becoming destructively abundant by inroads of predators and the entomogenous fungi Empusa.

A CICADA (Tibicen olympusa Walk.)

Alabama — H. P. Loding through R. W. Harned (August 13): Van Aller found Tibicen olympusa Walk. in great numbers in local Satsuma nurseries during June and early July.

TRUCK-CROP INSECTS

TOMATO

TOMATO WORM (Protoparce sexta Johan)

Mississippi — R. W. Harned (September 26): A large green worm is reported as stripping tomatoes at Jackson, Mississippi. This is probably the tomato worm, Protoparce sexta.

CORN EAR WORM (Heliothis obsoleta Fab.)

Mississippi — R. W. Harned (September 26): Another insect is reported as boring into young tomatoes in the vicinity of Jackson, Mississippi. This is probably Heliothis obsoleta.

KALE

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

rginia — Herbert Spencer (August 28): The false cabbage louse Aphis pseudobrassicae has put in an appearance in the plantings of kale. In some ppots it is abundant enough to cause severe damage by stunting the young plants.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

yland — J. A. Hyslop (September 25): Cabbage worms are very much more troublesome than during the past two years in eastern Montgomery County. The larvae are seriously infesting kale and cabbage.

linois — C. C. Compton (September 14): Cabbage worms are much more abundant and troublesome than usual in the Chicago district. In Cook County the percentage of parasitism is low and diseased specimens are rare. The past month has been warm and very dry.

th — G. F. Knowlton and Reed Christensen (September 18): Cabbage worms have done their usual damage this year in this State.

CABBAGE LOOPER (Autographa brassicae Riley)

issippi — R. W. Harned (September 26): The cabbage looper, Autographa brassicae, is reported as causing serious damage to turnips at Steens, Mississippi.

CABBAGE APHID (Brevicoryne brassicae L.)

York — C. R. Crosby and assistants (August 1): Infestations by the cabbage aphid in Ontario County were found to be slight this year. (August 15): In Wayne County two fields were found where heavy infestations by this aphid on cabbage existed.

baska — M. H. Swenk (August 25-September 25): Injury to cabbage by the cabbage aphid was reported from Madison County during the first week in September.

G. F. Knowlton and Reed Christensen (September 18): There has been less damage from the cabbage aphid in Utah this year than usual.

HARLEQUIN BUG (Murgantia histrionica Hahn)

issippi — R. W. Harned (September 26): Harlequin cabbage bug, Murgantia histrionica, has been reported as injuring collards and similar crops in different parts of the State.

Nebraska — M. H. Swenk (August 25-September 25): At Lincoln during the last few days in August a light infestation of a patch of cauliflower by the harlequin cabbage bug was found. This is the only report we have had of injury by that insect during the year.

BEANS

RED-HEADED FLEA BEETLE (Systena hallicornis Schif.)

New Mexico — J. R. Douglass (August 22): On July 28 this insect was noted attacking a 6-acre field of late planting of beans in the Rio Grande Valley. Beans in poor condition and beetles concentrated on stunted plants.

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Pennsylvania — Neale F. Howard (September 11): This insect was reported from Fayette and Alleghany Counties.

Indiana — Neale F. Howard (September 11): Reported from Dubois, Martin, Perry, and Spencer Counties.

H. F. Dietz (September 21): Specimens collected at Knightstown. A report which is not verified by specimens was received from a locality 3 miles north of Cambridge City.

Kentucky — Neale F. Howard (September 11): Reported from Christian, Hancock, Hopkins, and McLean Counties.

Tennessee — Neale F. Howard (September 11): Reported from Benton, Stewart, Houston, Humphreys, and Decatur Counties.

MELONS

MELON APHID (Aphis gossypii Glov.)

Nebraska — M. H. Swenk (August 25-September 25): Reports of injury by the melon aphid were received up to the first of September.

Arizona — Arizona News Letter, Vol. 3, No. 8 (August 31): Some late watermelons were seriously attacked by the melon aphid in a field south of Phoenix.

BEETS

BEET WEBWORM (Loxostege sticticalis L.)

Virginia — Herbert Spencer (September 18): In the vicinity of Norfolk there is an outbreak of one of the beet webworms, probably Loxostege sticticalis. The crops affected are beets and spinach. Some fields have been stripped bare of these larvae.

Nebraska — M. H. Swenk (August 25-September 25): Reports of the destruction of Russian thistles by the sugar-beet webworm in Deuel County, near

Bigsprings, were received in the second week in September. On some large specimens of this weed as many as 200 or 300 of the webworms could be found and they were also reported as moving in armies.

Kansas — J. W. McColloch (September 12): A very heavy infestation of the sugar-beet webworms on Russian thistle was found in Hamilton and Greeley Counties. In many fields the thistles were destroyed. The worms were so abundant that the farmers were afraid to sow wheat.

Utah and Idaho — G. F. Knowlton (September 1): Sugar-beet webworms were doing considerable damage to beets around Cornish and Lewiston, and over into southern Idaho.

BEET LEAFHOPPER (Eutettix tenella Baker)

Utah — G. F. Knowlton (September 11): Curly-leaf of sugar beets has caused little damage this year in Utah as a general rule, but some fields in Cache Valley and Boxelder County have from 6 to 10 per cent of the beets showing unmistakable symptoms of this disease. The worst infested field found so far is east of River Heights. (September 18): In the northern part of Utah sugar beets have suffered slightly from curly leaf, usually from 1 to 5 per cent of the beets showing damage. The leafhopper causing this is seldom found in large numbers in the fields.

BEET ROOT APHID (Pemphigus betae Doane)

Utah — G. F. Knowlton (September 18): Beet rood aphids are also numerous and damaging the beets at Clover.

WHITE GRUBS (Phyllophaga spp.)

Utah — G. F. Knowlton (September 18): White grubs are doing serious damage to sugar beets at Clover in parts of the fields here.

CARROT

PARSLEY STALK WEEVIL (Listronotus latiusculus Boh.)

New York — C. R. Crosby and assistants: (July 25): Larvae are causing carrot growers much loss in Nassau County.

ONION

ONION THRIPS (Thrips tabaci L.)

New York — C. R. Crosby and assistants (August 8): The damage caused by this pest in Orange County is large. Many fields did not mature before the tops withered (August 15): In Wayne County this pest has been serious this season, causing more damage than the blight.

SOUTHERN FIELD-CROP INSECTS

COTTON

BOLL WEEVIL (Anthonomus grandis Boh.)

GENERAL STATEMENT

B. R. Coad: In Texas weevils are abundant in a few southeastern counties on and near the coast. In northern Louisiana infestations are spotted with severe injury in many fields while in southern Louisiana infestations are generally high. In Arkansas infestations throughout the State are generally light; however, somewhat higher than in 1924. In Mississippi there is a low infestation generally with severe injury in many local areas. In Tennessee spotted high infestations have been reported in the western portion only. In northern Alabama there is a generally light infestation with some injury in local areas and a somewhat higher infestation generally in the southern portion. In northern Georgia weevils were almost completely controlled by climatic conditions while in southern and eastern central Georgia some injury was reported. In western South Carolina and western North Carolina light infestations prevail with generally high infestations in eastern and southern South Carolina and eastern North Carolina.

Mexico

A. W. Morrill (September 3): Following an eradication campaign in volunteer cotton fields in June no weevils have been found in Yaqui Valley cotton. Summer rains were more frequent during July and August than during the same period in 1924 when weevils were multiplying rapidly. A few weevils were found attacking wild cotton in city parks at Hermosillo.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Indiana

H. F. Dietz (September 21): One specimen of the cotton moth was collected at Indianapolis on September 15 but no flights have been observed.

Mexico

A. W. Morrill (September 7): The cotton leaf worm appeared for the first time in Yaqui Valley, Sonora, during my 4-year observations of cotton insects in that district. Defoliation and severe losses threatened but were prevented by dusting with calcium arsenate at opportune times. One hundred miles north in Hermosillo district leaf worms are present but less abundant.

Mississippi

R. W. Harned (September 26): The cotton worm moth, Alabama argillacea Hbn., was reported on September 20 as causing damage to late peaches, figs, and tomatoes at Coldwater, Tate County, Miss. These insects had been appearing in considerable numbers for two weeks previous to that date. Each year when these insects are abundant in the cotton fields the adult moths are reported as causing injury to figs and peaches.

Texas H. S. Adair (September 22): The cotton leaf worm was reported at Brownwood by county agent C. P. Griffen as doing quite a bit of damage in a few sections of the county the first part of August. The pest has apparently been held in check by the continued dry weather; however, it has been extending its range and recent observation shows quite a bit of feeding in fields which had formerly been free from infestation. No damage to the crop is likely to occur this season.

BOLL WORM (Heliothis obsoleta Fab.)

Arizona Arizona News Letter Vol. 3, No. 8 (August 31): The cotton boll worm was reported from several of the cotton districts of the State. No serious outbreak has been reported thus far this season.

A MEALYBUG

Arizona Arizona News Letter Vol. 3, No. 8 (August 31): A species of mealybug appeared on cotton in the latter part of the month. Three widely separated outbreaks were reported in the Salt River Valley. The most serious of these was near Phoenix south of the Salt River where approximately 2 acres of cotton was partially destroyed by the insects. The outbreak was checked by cutting and burning the infested plants. The lesser outbreaks were found near Mesa and Glendale. At the latter place a heavy rain checked the insects before any material damage was done.

BEAN THRIPS (Heliothrips fasciatus Perg.)

California E. A. McGregor (September 15): This constitutes the largest and severest case of bean thrips injury to cotton we have ever observed. Not a plant on the entire 350 acres was probably entirely free of the pest. Some spots comprising an area of from 2 to 10 acres had become so severely infested that the plants had become more or less denuded of foliage and only the older bolls were retained. A great deal of damage had resulted. A good many predators were present, especially Triphleps, Rhinacloa, Chrysopa, and reduviids.

COTTON SQUARE DAUBER (Lygus elisus Van D.)

California E. A. McGregor (September 15): An estimate of 50 per cent damage to cotton is merely a rough approximation and should not be taken as final. A large number of squares and very young bolls were examined, 50 per cent of which had been stung and were doomed to shed. In addition, many of the old dry squares (on the ground or adhering to the stalks) were found to have unmistakable evidence of having been killed by Lygus. Probably this is the severest case of Lygus damage ever observed.

A PLANT BUG (Miridae) (Phytocoris sp.)

Mexico — A. W. Morrill (September 7): A large green species appeared in cotton fields of Yaqui Valley and caused considerable shedding of squares. Adults were very active and difficult to capture. Young stages were frequently found in picking cotton squares for examinations. The same species was abundant in cotton fields in the Hermosillo district.

A TINGITID (Gargaphia iridescens Champ)

Mexico — A. W. Morrill (September 7): A species of tingitid appeared on cotton in the Yaqui Valley in early summer and has been under observation. Although 10 per cent of the leaves were destroyed in some small areas of a few acres each, the insects did not multiply to keep up with the growth of the plants. By the end of the first week in September there was no change in status. The insect has shown possibilities of becoming at times destructive to slow-growing cotton.

SUGARCANE

YELLOW SUGARCANE APHID (Sipha flava Forbes)

Porto Rico — A. H. Rosenfeld (August 29): The attacks of this louse in Porto Rico are always limited to periods of drought and generally to the Uba, or Chinese type of sugarcane, although they at times attack the true Saccharum officinarum varieties on the normally dry and irrigated south coast. In the latter case, however, they are never as numerous as on the Chinese canes, which they may at times entirely kill out in periods of prolonged drought. As it has just rained in the Arecibo district, this outbreak will probably be of slight importance.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Mississippi — R. W. Harned (September 26): We have received specimens of the sugarcane moth borer, Diatraea saccharalis crambidoides. There was nothing to indicate that these insects are especially abundant but they were collected in Wilkinson and Jackson Counties.

FOREST AND SHADE-TREE INSECTS

GENERAL FEEDERS

GIPSY MOTH (*Porthetria dispar* L.)

GENERAL STATEMENT

A. F. Burgess: During the summer of 1925 the gipsy moth infestation over most of the infested area was quite light and no records of defoliation caused by this insect were secured excepting on Cape Cod where there was a very sudden increase of the insect. It has been estimated that on Cape Cod nearly 25,000 acres were completely defoliated and nearly as many more acres were partially defoliated. This heavy defoliation occurred in towns where no large areas were defoliated in the preceding year.

Although the gipsy moth infestation was light over most of the infested area, field observations indicate that it has increased slightly, so that more eggs were deposited this summer than in the previous season.

The Federal scouting and extermination work has been carried on within the barrier zone and New Jersey in cooperation with the States involved. The barrier zone embraces a strip of territory from the Hudson River, N. Y., to the eastern boundary of Berkshire County, Mass., and averages about the same width north to the Canadian border, and south to Long Island Sound. The entire zone has been scouted and only small infestations have been located, all of which have been treated.

In New Jersey the scouting work in the fall of 1924, around the center of the original gipsy moth colony, showed that the infestation had been greatly reduced. Accordingly the scouting in this area was reduced so as to release men to carry on scouting in a strip of territory about 10 miles wide surrounding the entire infested area. This marks the beginning of the closing-in process which will result in a greater reduction of the territory by working from the outside toward the center. Only one small infestation was located within this outside area. This infestation and all of the infestations found in the inside territory have been thoroughly treated. Fewer infestations were found during the year than at any time since the discovery of the gipsy moth in New Jersey.

The gipsy moth situation in the barrier zone and in New Jersey is very encouraging. The gipsy moth infestation located last year by the Canadian authorities at Henrysburg, Quebec, has been thoroughly treated by them and no new infestations have been located.

No change has been made in the quarantine area.

BROWN-TAIL MOTH (*Euproctis chrysorrhoea* L.)

GENERAL STATEMENT

A. F. Burgess: The brown-tail moth situation continues to be about the same as reported last year. In the southeastern part of New Hampshire and southern Maine there was considerable defoliation in neglected apple orchards but no severe defoliation in woodland areas has been recorded. Over most of the infested area the infestation is very light. No change has been made in the quarantine area.

ORIENTAL MOTH (Cnidocampa flavescens Walk.)

Massachusetts — A. F. Burgess: The Bureau of Entomology has not made a survey of the spread of this insect this season. From casual observations and collections, and from reports of the State of Massachusetts Nursery Inspector it appears that this insect was not unusually abundant this season and that it has not dispersed to any great extent, still being confined within the bounds of greater Boston.

SATIN MOTH (Stilpnotia salicis L.)

GENERAL STATEMENT — A. F. Burgess: Field observations indicate that the satin moth has spread greatly during the season. The intensity of the infestation in many sections was very severe. Lombardy, Carolina, and silver poplars and willows were entirely defoliated in many towns from Cape Cod to the southern part of Maine. New dispersion records obtained by the State officials of Maine, New Hampshire, and Massachusetts and the United States Bureau of Entomology show that the satin moth has spread as far north as Warren, Maine, and Moultonborough, N. H. To the west it has reached Wilton and Mason, N. H., and the towns in a line running north and south through Worcester, in Massachusetts. The eastern one-third of Rhode Island and all of the Cape area in Massachusetts are infested.

A SCALE

Nebraska — M. H. Swenk (September 25): One of our county agricultural agents has sent in a branch of what he says is a hackberry tree, and which seems really to be that, considerably infested with a scale. This agent is located in Hall County and says that the trees in one section of Grand Island are badly infested.

A COCCINELLID (Cryptolaemus montrouzieri Muls.)

Porto Rico — A. H. Rosenfeld (August 21): While Mr. Wolcott was here this week, he called my attention to dense clusters of these coccinellid larvae on trunks and branches of bucare trees, Erythrina glauca, assuring me that, before inroduction of C. montrouzieri from California by Van Dine in 1911, these trees were practically defoliated by Pseudococcus citri Risso. These mealybugs are now very scarce on the bucares, but the Cryptolaemus does not seem to attack near-by P. calceolariae Mask. on sugarcane, for which purpose it was imported.

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

Indiana — J. J. Davis (September 24): The white-marked tussock moth was reported defoliating small plum trees at Union City.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Kansas — J. W. McColloch (September 15): The bagworm has been reported from Valencia and Manhattan in the past month. This is the first time the bagworm has occurred in any numbers at Manhattan.

FALL WEBWORM (Hyphantria cunea Drury)

Massachusetts — A. I. Bourne (September 22): The fall webworm has apparently been slightly more than normally abundant. The larvae are beginning to mature and leave the webs to a considerable extent. This insect has been observed on a number of varieties of trees and shrubs on which we are not accustomed ordinarily to expect it. Of course, almost all the varieties of fruit have been infested.

Connecticut — M. P. Zappe (September 24): Roadside trees in some cases have been nearly defoliated in New London County. They appear to be more plentiful this year.

ARBORVITAE

A RED SPIDER (Tetranychus telarius L.)

Nebraska — M. H. Swenk (August 25-September 25): Complaints of injury by the red spider continued coming in during the period covered by this report. They were complained of in connection with evergreen trees and a variety of shrubs and herbaceous plants.

BIRCH

BIRCH LEAF SKELETONIZER (Bucculatrix canadensisella Chamb.)

Massachusetts — A. I. Bourne (September 22): The birch leaf skeletonizer was somewhat late in making its appearance this season, but at this date it is with us throughout the entire State, and in practically the same abundance as last year.

Connecticut — R. B. Friend (September 24): This insect was about as abundant as usual around New Haven. Between Farmington and Winsted it was very abundant, much more so than usual. Most of the larvae had pupated by September 15.

A SAWFLY (Fenusa pumila Klug)

New York — C. R. Crosby (September 4): The ends of birch branches only are affected at Mt. Vernon.

BOXELDER

BOXELDER PLANT BUG (Leptocoris trivittatus Say)

Indiana — J. J. Davis (September 24): Boxelder bugs have been reported as very abundant the past month from many localities in the southern two-thirds of the State.

Illinois — W. P. Flint (September 19): The usual number of inquiries concerning this insect are now coming in. The insect is possibly a little more abundant than usual this season.

Missouri — L. Haseman (September 22): There is a general epidemic of this insect throughout the central portion of the State this fall. This is the first heavy infestation since the fall of 1906 or 1907.

Kansas — J. W. McColloch (September 15): The boxelder bug has been attracting more attention than usual. Reports of their presence in excessive numbers have been received from St. Marys, Baldwin, and Erie.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Ohio — E. W. Mendenhall (September 12): The elm bark-louse is very bad in Grandview, a suburb of Columbus. Early spring applications of a miscible oil at the rate of 1 to 15 have given excellent results.

A LACEBUG (Corythucha pallida var. ulmi Osb. & Drake)

Connecticut — W. E. Britton (September 4): Leaves are coated with excrement and cast skins, and dropping freely. This is an unusual attack for Connecticut. Elms are being attacked at Canaan and West Cornwall.

HEMLOCK

A GEOMETRID (Ellopia fiscellaria Guenee)

Michigan — R. H. Pettit (August 28): Today we found one moth in the cage in which we had placed larvae from Leland. These larvae were defoliating hemlock and balsam trees and were working also on several kinds of pine. I take this adult to be Therina fervidana or its synonym fiscellaria; otherwise known as Ellopia fervidaria. This is the first one out and thus far the only one out. (Determined by Dr. Dyar as Ellopia fiscellaria Guen. - J. A. Hyslop). (September 1): Our geometrid, which works on hemlock and its allies, has produced a number of adults and they all prove to be the same species as the one sent on August 28.

Wisconsin — S. B. Fracker (September 21): Hemlocks in Peninsular State Park, Door County, were defoliated in July by a spanworm. Many trees were killed over a large area. Adults now flying are Therina sp., apparently fiscellaria Guenee.

LOCUST

LOCUST LEAF MINER (Chalepus dorsalis Thunb.)

Virginia — W. S. Abbott (August): This insect has been very abundant this season at Vienna. Foliage was very generally and severely injured.

MAPLE

COTTONY MAPLE SCALE (Pulvinaria innumerabilis Rathv.)

New Jersey and Ohio — Wm. Middleton (September 3): I have just received two lots of the cottony maple scale; one from Grantwood, N. J., and the other from Cleveland, Ohio.

Ohio — E. W. Mendenhall (September 12): The cottony maple scale is found quite abundant on maple and other plants this year at Columbus and in southwestern Ohio.

Indiana — J. J. Davis (September 24): The cottony maple scale continues to be reported from many sections of the northern half of the State as a very serious pest.

RED-HUMPED OAK CATERPILLAR (Symmerista albifrons S. & A.)

New York — C. R. Crosby (September 24): At least 250 acres of maple and beech were defoliated in Cortland County.

OAK

CALIFORNIA OAK WORM (Phryganidea californica Pack.)

California — D. B. Mackie through T. D. Urbahns (September 16): This insect was noted on August 24 on the hills in the vicinity of Palo Alto, on Quercus agrifolia.

PINE

COLASPIS SP.

Louisiana — F. C. Craighead (September 25): During the season of 1924 our attention was called to severe defoliation of pines by Colaspis sp. This year it seems to be decidedly worse judging by reports of those familiar with conditions last year. Between Bogalusa and Slidell particularly heavy defoliation occurs on longleaf, loblolly, and slash pines. Many trees have been 50 to 75 per cent defoliated and if this continues another year or more it

may result in the death of many of them. All sizes of trees from seedlings 1 foot high to mature trees are attacked. The feeding is extremely local. On the plantations of the Great Southern Lumber Company the worst injury appeared to be on the slightly higher ground in an association where scrub oak occurs. This soil is much lighter and sandier than in the near-by lower ground and it is very probable that these larvae feed on the roots of some plant in this association. The defoliated groups range from a few trees to patches several acres in extent. The limits are well demarcated and adjacent to these severely browned patches perfectly green timber occurs. The needles are gnawed back from the tip but may be bitten off near the base. In cases of severe defoliation all the needles are removed or at least killed down to the leaf sheaths.

Two days later, going west from Bogalusa on the Gulf Coast line, similar injury was observed at various points along the right of way. It was particularly noticeable between Eunice and Kinder, La. At these points some trees are actually dead though this may be the result of the severe drought of last summer and fall. However, some of the trees have only recently died. Longleaf and slash pines are affected at this locality.

SASSAFRAS

A WEEVIL (Prionomerus calcceatus Say)

New York — M. D. Leonard (July 7): Specimens received from Mineola.

SPRUCE

SPRUCE BUDWORM (Harmologa fumiferana Clem.)

Maine — H. B. Peirson (June 18): Attacking fir in Somerset County. Twenty-five per cent defoliated. The area infested is 75 acres.

SPRUCE GALL APHID (Chermes abietis L.)

Maine — H. B. Peirson (July 13): Red spruce are 80 per cent defoliated by the spruce gall louse. The trees all over Bustins Island, Cumberland County, look brown; on some it is almost impossible to find a green terminal. The woods are in the same condition as the trees in the open. It looks very serious.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Indiana — J. J. Davis (September 24): The walnut datana has been reported from many sections of central Indiana as defoliating walnut trees.

Mississippi — R. W. Harned (September 2): We have just received specimens of the walnut caterpillar from our inspector at Moss Point, who states that he has never before seen them so bad in that section of the State.

Missouri — L. Haseman (September 22): There has been an unusual abundance of this caterpillar this season.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Ohio — E. W. Mendenhall (September 10): I find snowberry plants in a landscape planting at Canal Winchester infested with the oyster-shell scale.

OLEANDER SCALE (Aspidiotus hederae Vallot)

Nebraska — M. H. Swenk (August 25-September 25): Several complaints of injury to house ferns by the oleander scale were received during the period covered by this report.

MEALYBUGS

Mississippi — R. W. Harned (September 26): As usual at this time of the year we receive numerous complaints in regard to the mealybug on plants of all kinds. During the past two or three days specimens have been received from McComb, Miss., on fig, from Biloxi, Miss., on magnolia, and from Scott, Miss., on dahlia and night-blooming jasmine.

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

Louisiana — H. K. Plank and A. W. Cressman (August 20): Subsequent to its first observed reappearance this year on July 21, this scale has been reported growing in abundance, principally on Pittosporum tobira, Rosa spp., Plumbago sp., and Tamarix sp. The Vedalia had almost disappeared by May 12, at which time the scale was practically cleaned up, but is now gradually increasing in numbers as the supply of the scale is increasing.

GENERAL STATEMENT — H. K. Plank and assistants (August 20): Coincident with the increase of the cottony cushion scale in New Orleans, reports were received of this scale attacking a large number of plants, many of economic importance, at the following places:

Alabama at Laurendine, Theodore, and Mobile.
Mississippi at Biloxi, Gulfport, and Pass Christian.
Louisiana at New Orleans, Slidell, and Lake Charles.

All these infestations were well controlled by the Vedalia before midsummer.

FERN SCALE (Hemichionaspis aspidistrae Sign.)

Nebraska — M. H. Swenk (August 25 to September 25): Several complaints of injury to house ferns by the fern scale were received during the period covered by this report.

ASTERS

A SOLDIER BEETLE (Chauliognathus pennsylvanicus DeG.)

Nebraska — M. H. Swenk (August 25 to September 25): On September 8 a complaint was received that a garden of asters at Lincoln was being destroyed by large numbers of the beetle Chauliognathus pennsylvanicus.

BLACK BLISTER BEETLE (Epicauta pennsylvanica (DeG.)

Indiana — J. J. Davis (September 24): The black blister beetle has been reported as destructive to asters in several sections of the State.

CHRYSANTHEMUM

BLACK CHRYSANTHEMUM APHID (Microsiphoniella sanborni Gill.)

Virginia — W. S. Abbott (August 29): More abundant than at any time during the last 10 years at Vienna.

CYCLAMEN

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Illinois — C. C. Compton (September 12): The cyclamen mite is causing serious injury to cyclamen in the vicinity of Chicago.

DAHLIA

SUNFLOWER WEEVIL (Rhodobaenus tredecimpunctatus Ill.)

Alabama — H. P. Loding through R. W. Harned (August 13): Rhodobaenus tredecimpunctatus is beginning to prove a rather serious pest, the larvae in dahlia stems killing many plants. I reared the larvae to maturity, emergence taking place the first week in August.

ROSE

A WHITEFLY (Tetraleurodes ursorum Ckll.)

Alabama — H. P. Loding through R. W. Harned (August 13): A white fly determined by Dr. A. C. Baker as Tetraleurodes ursorum Ckll. was found infesting greenhouse roses in Mobile County. As it appeared in great numbers (sometimes as many as 40 pupa cases on a single leaflet) it no doubt would do considerable damage. It seems to respond to spraying with soap and black leaf 40. (September 15): Since my last report Dr. Van Aller has found heavy infestations of this pest on loganberry and outdoor roses and today reported this tiny black case whitefly on Satsumas but very slightly; however, it goes to show that it may take to these and perhaps other evergreens.

LEAF-CUTTER BEE (Megachile sp.)

Nebraska — M. H. Swenk (August 25 to September 25): A correspondent in Sioux County reports that the plum and rose trees are being badly injured by the work of a leaf-cutter bee, Megachile sp.

A FLAT-HEADED BORER (Agrilus viridis var. fagi Ratz.)

Connecticut — W. E. Britton (September 8): Work of this insect was sent in from Darien. It is the first record for Connecticut.

Michigan — William Middleton (September 3): We have received an interesting sending of Agrilus viridis L. var. fagi Ratzeburg from rose, from Ann Arbor, Mich.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Arizona — Arizona News Letter Vol. 3, No. 8 (August 31): Roses were found to be attacked also by the flat-headed apple tree borer in a back yard planting on a city lot in Phoenix.

MOSSY ROSE GALL((Rhodites) Diplolepis rosae L.)

Michigan — William Middleton (September 3): The mossy rose gall is occurring in tremendous numbers on Beaver Island, Mich.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicidae)

Michigan — R. H. Pettit (August 28): The city of Detroit is now suffering from an epidemic of mosquitoes. It seems that a few weeks ago very heavy rains flooded part of the city and at the present time the great numbers of mosquitoes have necessitated the use of oil on their breeding places, to a degree that has been heretofore unknown.

FLEAS (Siphonaptera)

Kansas — J. W. McColloch (September 15): Fleas have been exceptionally bad about Manhattan during the last month. Reports have also come to hand from Horton and Wichita.

HORSES

THROAT BOT FLY (Gastrophilus nasalis L.)

Ohio — F. C. Bishopp (August 27): All horses are well infested with eggs of the throat bot fly at Columbus. The eggs of this species seem to be equally as abundant as those of Gastrophilus intestinalis. Much annoyance to horse is reported from the attack of this fly.

HORSE BOT FLY (Gastrophilus intestinalis DeG.)

Ohio — F. C. Bishopp (August 27): The adults of this species have increased in numbers during August at Columbus and practically all horses are now well infested with eggs. The flies are reported as bothering horses considerably in the harvest fields.

Illinois — W. P. Flint (September 19): Adults of this insect have been very abundant during the last month. In one case an adult was observed to deposit six eggs on the hairs of the arm of a man working in the field.

CATTLE

STABLE FLY (Stomoxys calcitrans L.)

Ohio — F. C. Bishopp (August 27): Stable flies fell off slightly in numbers during August at Columbus but were still very annoying to stock at the end of the month. Some herds show an average of 100 per animal feeding at one time.

Michigan — R. H. Pettit (August 28): Unusual numbers of stable flies are present in the vicinity of Grayling, where they made themselves conspicuous during the annual military camp held at that place.

Texas — O. G. Babcock (September 8): Flies are beginning to appear in small numbers.

HORN FLY (Haematobia irritans L.)

Ohio — F. C. Bishopp (August 27): The horn fly has continued to seriously annoy all classes of cattle throughout August at Columbus, although there has been some reduction in numbers during the latter half of the month. Some dairy herds show an average of about 1,500 per head on this date. Most dairymen are using sprays.

SCREW WORM (Cochliomyia macellaria Fab.)

Ohio — F. C. Bishopp (August 27): Screw worm flies have increased some in this locality (Columbus) during August. At rendering plants

the percentage of flies present on this date is about as follows:

	Per cent
Phormia regina.	60
Chrysomya macellaria	20
Musca domestica	18
Lucilia spp..	2

HOGS

FLEAS (Siphonaptera)

Missouri — Wm. Moore (September 29): One of our men has conducted a survey of the State of Missouri on the relative abundance of the human flea in association with hogs raised in this State. Very heavy and serious infestation was found in the northwestern and central parts of the State, extending eastward to Mercer, Macon, Boone, and Callaway Counties and southward to Cole, Morgan, and Cass Counties. A more lightly infested area extends to the eastern boundary of the State and southward to Jefferson, Maries, Hickory, and Barton Counties. The southern third of the State seems to be practically uninfested.

POULTRY

CHICKEN MITE (Dermanyssus gallinae Redi)

Missouri — L. Haseman (September 22): As the summer advanced the abundance of the mite seemed to decrease and few complaints were received during the month.

LARGE BODY HEN LOUSE (Menopon biseriatum Piaget)

Texas — O. G. Babcock (September 8): Poultry lice have been extremely numerous during the last four to six weeks. In many cases birds were so heavily infested as to become emaciated. These birds revived rapidly after treatment with sodium fluoride. A peculiar feature of this infestation was that seriously infested birds did not show the usual paling of the wattles and comb.

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Arizona — Arizona News Letter Vol. 3, No. 8 (August 31): The sticktight flea was found to be causing considerable concern to a dog belonging to one of the veterinarians of Phoenix. The insects had attached themselves to the ears and the efforts of the pup to remove them were far from successful.

SAND FLEA (Siphonaptera)

Missouri — L. Haseman (September 22): This pest for the first time has broken out as an epidemic on a large poultry farm in southeastern Missouri.

INSECTS INFESTING HOUSES AND PREMISES

CAT AND DOG FLEAS (Ctenocephalus canis Bouché and C. felis Bouché)

Ohio — F. C. Bishopp (August 27): Reported in many localities in the central States as infesting houses in towns and cities and on farms. The abundance of the insects is probably no greater than normal for this season.

HUMAN FLEA (Pulex irritans L.)

Ohio — F. C. Bishopp (August 27): Reported in many localities in the central States, as infesting houses in towns and cities and on farms. The abundance of the insects is probably no greater than normal for this season.

A STINK BUG (Thyanta custator Fab.)

Nebraska — M. H. Swenk (August 25 to September 25): It was reported during the first week in September that in Harlan County, in the vicinity of Orleans, great swarms of the stink bug Thyanta custator were attracted to the street lamps so that the walks around them were a thick mass of crushed bugs, and the bugs also swarmed into houses.

CARABID BEETLE (Nomius pygmaeus Dej.)

Michigan — R. H. Pettit (August 26): I received today 20 or 30 specimens of a small carabid beetle from which emanates an odor similar to that of sewer gas. It is reported to be very plentiful in some boarding houses at Ramsey- away up north. (September 8): To quote a correspondent from Ramsey: "We are having trouble with an epidemic of so called 'sewer bugs' which are infesting our company boarding house and a few other houses in Ramsey. We are at a loss to account for the source of these vermin and would be glad to find a way to get rid of them. The character of the vermin is that when they are killed the odor is very offensive and analogous to the odor of sewer gas." Also reported from Gogebic County.

TERMITES

Indiana — J. J. Davis (September 24): Frequent inquiries have been received about white ants. Reports usually refer to injury to buildings. One correspondent reports injury to rhubarb.

Kansas — J. W. McColloch (September 19): Two reports of termite injury have been received during the last month. Much of the woodwork in a house at Manhattan has been destroyed. This house was rebuilt last year owing to termite work. A report from Gardner states that the termites are just starting in the woodwork in a house there.

Arizona — Arizona News Letter Vol. 3, No. 8 (August 31): Termites or "white ants" damaged a rug in a Phoenix residence by completely eating out the fiber material. They gained entrance near the fireplace and before their presence was discovered had started work on the rug.

COCKROACHES

Indiana — J. J. Davis (September 24): Cockroaches were becoming so abundant and annoying in the business section of one city in southern Indiana that a request for a control demonstration was made. The demonstration proved very effective.

Kansas — J. W. McColloch (September 15): Cockroaches have been reported abundant in houses at Wichita and Topeka. A very heavy infestation was found in a cafe at Manhattan.

SLUGS

Indiana — J. J. Davis (September 24): Slugs have been reported recently as troublesome in cellars.

HOUSE FLY (Musca domestica L.)

Ohio — F. C. Bishopp (August 27): The house fly, which was very abundant and troublesome during July and early August, has decreased considerably in numbers at this date. About the usual number of cases of dysentry have occurred this summer and many of them seem traceable to contamination of food by house flies, especially during picnics.

Texas — O. G. Babcock (September 8): For the last two weeks the house fly has been more numerous than normally at Sonora for this season of the year.

POWDER-POST BEETLES (Bostrichidae)

Nebraska — M. H. Swenk (August 25 to September 25): From Merrick County early in September came a report of the destruction of a cattle barn made mostly of cottonwood lumber by powder-post beetles.

INSECTS INJURIOUS TO STORED PRODUCTS

BEAN WEEVIL (Mylabris obtectus Say)

Missouri — L. Haseman (September 22): The common bean weevil has been complained of.

MEDITERRANEAN FLOUR MOTH (Ephestia kuehniella Zell.)

Missouri — L. Haseman (September 22): The Mediterranean flour moth has been reported as abundant during the month.

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella Oliv.)

Missouri — L. Haseman (September 22): The Angoumois grain moth has been reported as abundant during the month.

FOREIGN GRAIN BEETLE (Cathartus advena Walt.)

Nebraska — M. H. Swenk (August 25 to September 25): A majority of the complaints relate to infestation with two species of grain beetle - the saw-toothed grain beetle and the foreign grain beetle.

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis L.)

Nebraska — M. H. Swenk (August 25 to September 25): Stored grain pests have been complained of rather freely during the period covered by this report. A majority of the complaints relate to infestation with two species of grain beetle - the saw-toothed grain beetle and the foreign grain beetle.

INDIAN-MEAL MOTH (Plodia interpunctella Hbn.)

Indiana — J. J. Davis (September 24): Reported as damaging peanuts in storage.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 November 1, 1925 Number 8

BUREAU OF ENTOMOLOGY

UNITED STATES

DEPARTMENT OF AGRICULTURE

AND

THE STATE ENTOMOLOGICAL

AGENCIES COOPERATING

INSECT PEST SURVEY BULLETIN

Vol. 5 November 1, 1925 No. 8

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR OCTOBER, 1925

The month has shown as usual the rapid decline in insect depredations over the Northern States.

This number of the Bulletin contains the final summary of the Hessian-fly situation in Nebraska, Illinois, and Kansas. The fall brood of the fly seems generally to be larger than usual. On the other hand, the false wireworms on winter wheat in the Western States are decidedly less prevalent.

The localized colony of the Anomala (Anomala orientalis Waterh.) in Connecticut is still flourishing. One of the most surprising features is the very slight general interest of entomologists throughout the country in the presence of this most serious pest in the United States.

Growers in the southern part of the Eastern-Shore district of Maryland and Virginia are suffering an almost complete loss of the late potato crop, due to the work of the potato tuber moth.

In Texas and southern California the boll worm seems to be even more troublesome than usual, both as a corn and as a cotton pest.

The season as a whole has been normal from an entomological point of view. No widespread serious grasshopper outbreaks developed despite the threatening conditions reported in the early part of the season. The Hessian fly, as a whole, was not so serious as usual though Kansas suffered very seriously from infestation by this pest.

In May, June, and July a very widespread and serious outbreak of cutworms took place, extending over practically the entire region east of the 100th meridian and also along the Pacific Coast. Despite the unusually early appearance of the cotton leaf worm but little general damage was done by this pest and in many sections it is even proving beneficial in hastening the maturing of late bolls.

Except for the localized outbreaks in the Delta sections of Mississippi and Louisiana the chinch bug was not serious.

During the season the Mexican bean beetle very materially increased its range. It is now known to occur over the greater part of West Virginia, southwestern Pennsylvania, southern Indiana, and practically all of Ohio, with very little extension of territory to the south and west.

The boll weevil infestation as a whole was subnormal.

The codling moth was generally more prevalent than during the last three years in the East-Central States; on the other hand the plum curculio was below normal in the Georgia fruit belt.

The Oriental peach moth has advanced its range of serious abundance southeastward to the Sandhill section of North Carolina and southwestward to the Birmingham section of Alabama.

The Gipsy-moth situation was generally favorable except in the Cape Cod section of Massachusetts, and the New Jersey center was less serious than at any time since the discovery of this pest in the State. The brown-tail moth remains about the same as last year but the satin moth has greatly spread during the past season. The pest now extends to Warren, Me., and Moultonborough, N. H., westward to Wilton and Mason, N. H., and Worcester, Mass., and southward to the eastern third of Rhode Island.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR OCTOBER, 1925

In nearly all parts of the Dominion of Canada unseasonably cold weather has prevailed throughout the month, accompanied by much rains and snow, and consequently few reports of insect activity have been received.

The European corn borer has been found in 25 additional townships in Ontario, in 1925 - in the territory north of Toronto, and east along the St. Lawrence River, in Simcoe, Hastings, Frontenac, Lennox, Addington and Leeds Counties.

The western wheat-stem sawfly is parasitized by Microbracon cephi Boh., to the extent of 22 per cent in the Treesbank district, Manitoba.

The pine shoot moth, Rhyacionia buoliana Schiff., has been found at six different points in Ontario. It is supposed to have been originally imported from Europe and, in one case, possibly from the United States.

The forest tent caterpiller infestation in Saskatchewan this year occurred in the wooded areas in the Qu'Appelle River valley extending through tributary coulees into the surrounding districts. The most severe outbreaks occurred in the vicinity of Bulyea and along the shores of Long Lake. The general trend of the infestation is in a northerly direction with a marked decrease in southern districts. A severe outbreak in the eastern section of the Qu'Appelle Valley is anticipated in 1926, with less severe infestations in the western end. In Manitoba, a new outbreak occurred this year from south of Crow Duck Lake to Lamprey Falls on the Winnipeg River.

Recent reports indicate that the codling moth caused much sideworm injury in apple orchards of the Niagara district, Ontario.

Grape leaf hoppers have experienced conditions favorable to their rapid increase in the Niagara district, Ontario, and they are expected to go into winter quarters in large numbers, in some sections.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

lorida — F. S. Chamberlin (October 7): Grasshoppers are rather abundant at Quincy at the present time. Some damage is being done to young beans and other truck crops.

Nebraska — M. H. Swenk (September 25 to October 25): During the last week in September grasshoppers were reported from York County as injuring young alfalfa fields around the edges.

WIREWORMS (Elateridae)

California — Roy E. Campbell (September 23): Cauliflower plants set out early in August at El Monte soon showed evidence of damage by wireworms (Pheletes californicus). Counts of dead plants made on this date show the damage to vary from 8 to 42 per cent, with an average for the field of 20 per cent. In addition many plants were stunted by the attack, but not killed.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Illinois — W. P. Flint (October 19): The emergence of the fall brood of the fly, reported as starting on September 18 in the last issue of the Crop Pest Survey, continued in about the normal manner, emergence being practically over at Urbana by October 4 or 5, and very few flies coming out after September 28. Data gathered in other parts of the State show the emergence to be normal so far as time of emergence is concerned, but that the fall brood was unusually heavy. All early-sown and volunteer wheat is practically 100 per cent infested. Some of the wheat on which eggs were first found on September 18 now have the fly in the flaxseed stage. Wet weather and almost daily rains starting about the recommended date for wheat seeding have delayed the seeding so that some wheat will be sown rather late.

Nebraska — M. H. Swenk (October 3): The following table gives the complete counts at stations Nos. 1 and 2 up to October 1 and 2, respectively. These records are a continuation of the records appearing in the last number of the Survey Bulletin. Station No. 1, at Millard, was discontinued on October 1.

Date		Station	Number of puparia per 100 stubble	Number of flies emerged	Number of eggs laid on 100 plants
Sept.	26	1	501	42	27
	27	1	282	131	68
	27	2	392	232	1012
	28	1	442	37	219
	28	2	354	186	373
	29	1	305	0	17
	29	2	308	77	64
	30	1	441	-	0
	30	2	424	58	3
Oct.	1	1	345	-	2
	1	2	546	6	0
	2	2	448	18	0

nsas J. W. McColloch (October 23): We still have plenty of the Hessian fly with us, and present indications are that this insect will cause considerable damage to the 1926 wheat crop. The principal trouble seems to be located in the central and western counties of the State, although the fly is present in all parts, except a few of the southwestern counties. Early-sown wheat throughout the State now contains flaxseeds. In McPherson County many early-sown fields have been plowed up because of fly damage. Wheat received from Lane County two weeks ago contained a large number of flaxseeds, and this record extends the western spread of the insect to some extent.

FALSE WIREWORM (Eleodes opaca Say)

braska M. H. Swenk (September 25 to October 25): Only one serious report of injury to newly-seeded wheat by the plains false wireworm was received this fall. That was from Frontier County and involved the practical ruination of 200 acres of wheat.

WHEAT ROOT APHIDS (Geoica squamosa Hart and Forda olivacea Rohwer)

braska M. H. Swenk (September 25 to October 25): The wheat root aphids were reported as attacking young wheat in Kearney County.

SIX-SPOTTED LEAFHOPPER (Cicadula sexnotata Fab.)

braska M. H. Swenk (September 25 to October 25): During the first week in October the six-spotted leafhopper was reported as very numerous in the young wheat fields around Mason, Custer County, though not doing any great amount of injury.

CORN

CHINCH BUG (Blissus leucopterus Say)

braska M. H. Swenk (September 25 to October 25): Additional information obtained since my last report of September 25 confirms the statement there made that the chinch bugs are going into hibernation in southeastern Nebraska in larger numbers than they did a year ago.

CORN EAR WORM (Heliothis obsoleta Fab.)

New York — Rodney Cecil through J. E. Graf (September 13): While collecting corn ear worms for hibernation at Geneva from 2 bushels of corn (Golden Bantam) we found practically every ear infested with from 1 to 3 larvae.

Indiana — J. J. Davis (October 28): More abundant than usual, damaging late sweet corn and affecting field corn throughout the State.

ALFALFA

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli Guen.)

Illinois — W. P. Flint (October 19): Moderate flights of this insect occurred in central Illinois during September and caterpillars are now present in such numbers in some sections in southern Illinois as to cause damage to alfalfa and clover.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Indiana — J. J. Davis (October 28): Armyworms were reported doing considerable damage to alfalfa and sweet clover at Rockport, October 8. Possibly fall armyworm but was unable to get specimens for positive identification.

GRASS

ANOMALA (Anomala orientalis Waterh.)

Connecticut — W. E. Britton (October 24): Many complaints have been received from owners at New Haven and many injured lawns observed but all are in the same section where the insect was first found here. They are more abundant than ever before.

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

APPLE

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Arizona — Arizona News Letter, Vol. 3, No. 9 (September 30): The woolly aphid was reported as being serious by a correspondent who manages a commercial apple orchard near Prescott.

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts — A. I. Bourne (October 22): A considerable amount of side-worm injury by the codling moth has been showing up for the most part in the eastern part of the State. This appeared, as near as I can determine at this time, mainly in August, which would lead us to suppose that it was due to the activities of the second-brood larvae.

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

assachusetts A. I. Bourne (October 22): As stated in my last report, the apple and thorn skeletonizer showed a very marked increase in the brood which normally appears in this State around September. This caused a considerable amount of leaf skeletonizing in some orchards. It should be stated. however, that our best growers are finding this insect so easily controlled by their regular spray schedule that they are not ranking it as a serious pest.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

assachusetts A. I. Bourne (October 22): I want to emphasize again the statement I made in my report of last month about the very general and considerable injury which has been caused throughout the main apple-growing sections of the State by the railroad worm. Of the principal varieties grown in this State, the Wealthy, was naturally hit the hardest. In one orchard which I visited the grower estimated that from 20 to 30 per cent of his supposedly marketable stock was found to be infested; practically 100 per cent naturally of his drops showed infestation. The trouble was so widespread and so serious that many growers found the market was rather suspicious of Wealthies. The McIntosh did not seem to be badly hit, although in some cases some injury was noted. I find that some of the growers are finding railroad worm work showing up in their Baldwins, which are being harvested at this time (October 15).

Nebraska M. H. Swenk (September 25 to October 25): A new center of infestation of apples with the apple maggot in southern Gage County was brought to our attention about the middle of October.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Indiana J. J. Davis (October 28): Continues as the major orchard problem in southern Indiana. This year it is much more abundant and destructive throughout central Indiana.

Illinois W. P. Flint (October 19): Recent examination of peach and apple orchards in southern Illinois by S. C. Chandler has shown an increase in scale in orchards where the pest was not brought thoroughly under control last spring. In some cases trees are infested and a determined effort will have to be made to control the insect this winter. For the most part the scale is well under control. Practically all orchards in this section of the State will be sprayed with oil emulsion again this year. This applies to both peach and apple.

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

Massachusetts A. I. Bourne (October 22): Indications now are that there has been considerable increase in the European red mite in very many orchards. This is based on the approximate amount of overwintering eggs which have been deposited and can be readily detected in the orchards at this time.

DOCK FALSE WORM (Ametastegia glabrata Fall.)

Massachusetts A. I. Bourne (October 22): An interesting report came to us about the middle of the month from an orchard just below us in South Amherst, where a grower was finding a considerable amount of typical injury caused by the so-called dock false worm. This injury was noted principally on the Baldwin. The latest estimate which I have heard from this grower places this typical injury up to about 20 per cent of the crop thus far harvested. This is rather interesting to us because it is practically the first time this has been reported to us as occurring in any abundance.

PEACH

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia O. I. Snapp (October 15): Numerous reports have been received at the laboratory at Fort Valley from all over the peach belt in regard to the rapid increase of the San Jose scale during the past year. The increase is apparently just as great in orchards that were treated by lubricating-oil emulsion as in those where liquid lime-sulphur was used. (October 21): The marked increase in the San Jose scale in Georgia peach orchards is in all probability due to the very hot and dry August and September. These conditions appear to favor rapid scale reproduction. The increase has been so rapid in some orchards that the vitality of the trees was being materially lowered, and in order to check the drain on the trees some growers had to use a 2 per cent lubricating-oil emulsion before the trees defoliated.

ORIENTAL PEACH MOTH (Laspeyresia molesta Busck)

Georgia O. I. Snapp and assistants (October 15): Seven generations of the Oriental peach moth have been reared in the insectary at Fort Valley this year.

Alabama N. F. Howard (October 13): Abundant enough on 11 young peach trees to be noticeable to the owner, who brought specimens to the laboratory. It has been comparatively scarce heretofore.

PEACH TREE BORER (Aegeria exitiosa Say)

Georgia — O. I. Snapp (October 13): Most of the Georgia peach growers are again using paradichlorobenzene for peach borer control. Some few are foregoing the treatment this year after having procured very high control by the use of the material for three consecutive years.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Georgia — O. I. Snapp (October 15): As usual this insect is at work in unhealthy peach trees at Fort Valley.

STRIPED TREE CRICKET (Oecanthus nigricornis Walk.)

Indiana — J. J. Davis (October 28): Egg punctures abundant in peach twigs received October 6 from New Haven.

PLUM

RED-HUMPED CATERPILLAR (Schizura concinna S. & A.)

California — T. D. Urbahns (September 26): The late generation was reported very destructive to young trees and defoliating older trees at Auburn.

E. E. Welty (September 29): Worked over about 80 acres at Tuttle, completely defoliating many trees. Lead arsenate spray proved ineffective. Time August 1 to October 1.

GRAPE

GRAPE LEAF SKELETONIZER (Harrisina americana Guer.)

Arizona — Arizona News Letter, Vol. 3, No. 9 (September 30): The grape leaf skeletonizer was again reported in a vineyard near Camelback Mountain. A spraying with lead arsenate was resorted to by the grower to check the insects.

DATE PALM

PARLATORIA DATE SCALE (Parlatoria blanchardi Targ.)

Arizona — Arizona News Letter, Vol. 3, No. 9 (September 30): The date palm inspector reports as follows: "During the month of September the Tempe Date Garden was inspected for Parlatoria scale with negative results. This garden still shows a clean slate and we are hoping the insects have been eradicated in this planting. The Carpenter planting near Camelback, in the Arcadia district, is apparently free from Parlatoria. Mr. Carpenter has 13 of the 15 shoots that were removed from the Tempe Date Garden in the spring of 1924. So far all the palms planted in 1925 are growing.

Mr. McVay's planting checks clean with no loss of shoots. Stapley's planting of 68 palms (34 from Cook's Nursery at Yuma) check clean with no loss. The Heard planting is in fine shape, clean and no loss this year. The palms on the Carl Hayden lot in Phoenix are still alive but too deeply planted. The Mesa Experimental Station has 42 palms in permanent planting and but 17 shoots left in the nursery; these palms are apparently clean.

Mr. Otto, near Mesa, has 9 palms on his planting, all in Johnson grass and all too deeply planted. Mr. Metzler's planting is in better condition than ever before; the ground is clean and his loss this year is very small, less than 2½ per cent. The Bumstead garden is as usual in fine condition. No Parlatoria scale observed during September."

TRUCK-CROP INSECTS

POTATO AND TOMATO

POTATO TUBER MOTH (*Phthorimaea operculella* Zell.)

Maryland — E. N. Cory (September 15): The late crop of potatoes will be almost a total loss in lower Worcester and Somerset Counties. Early crop not damaged. Some fields plowed down. Tops on others entirely destroyed; all fields injured.

CABBAGE

TURNIP APHID (*Rhopalosiphum pseudobrassicae* Davis)

Virginia — Herbert Spencer (August 28): The false cabbage louse has put in an appearance in the plantings of kale. In some spots it is abundant enough to cause severe damage by stunting the young plants.

IMPORTED CABBAGE WORM (*Pieris rapae* L.)

Massachusetts — A. I. Bourne (October 22): There has been a considerable amount of late work of the cabbage worms by the larvae of both the imported cabbage worm and of the cabbage looper. Mr. Whitcomb, of the Market Garden Field Station at Waltham, reported the proportional abundance of the species at about 50:50. Here at the College there was an overwhelming proportion of the loopers to the larvae of the imported cabbage worm.

SOUTHERN CABBAGE WORM (*Pieris protodice* Boisd.)

Alabama — N. F. Howard (October 1-9): Serious outbreak on fall "greens" in this section. Strangely enough the common *Pontia rapae* is not very abundant.

CABBAGE LOOPER (Autographa brassicae Riley)

Massachusetts — A. I. Bourne (October 22): There has been a considerable amount of late work of the cabbage worms by the larvae of both the imported cabbage worm and of the cabbage looper. Mr. Whitcomb, of the Market Garden Field Station at Waltham, reported the proportional abundance of the species at about 50:50. Here at the College there was an overwhelming proportion of the loopers to the larvae of the imported cabbage worm.

CABBAGE APHID (Brevicoryne brassicae L.)

California — Roy E. Campbell (September 23): Cauliflower plants set out in August at El Monte were badly infested by the first of September, causing the stunting of many plants. The abundance of ladybirds, together with the use of nicotine dust, has now greatly reduced the infestation. An interesting observation is that several experimental plots were planted under an overhead sprinkler system and have been sprinkled about once a week since planting. These plots are practically free from aphids, while near-by fields planted in the open and irrigated in furrows are badly infested. The initial cost of a sprinkler system is high, but its use requires less water and less work, and in addition to stimulating good growth, may act as a check against the aphids.

CABBAGE WEBWORM (Hellula undalis Fab.)

South Carolina — W. J. Reid, Jr. (October 17): The cabbage webworm was found to be doing considerable damage to collards and young turnips in several gardens in the Piedmont section of the State. The greatest injury consisted in the feeding on the younger leaves and buds of the plants, but in quite a number of instances the larger larvae were found burrowing into the stems of the collards.

SQUASH

MELON WORM (Diaphania hyalinata L.)

Florida — F. S. Chamberlin (October 8): Squash plants are rather heavily infested with the melon worm at the present time at Quincy.

SWEET POTATO

SWEET-POTATO WEEVIL (Cylas formicarius L.)

Texas — O. G. Babcock (October 11): Sweet potatoes secured from the grocery were found to be badly mined by the larvae of the sweet-potato weevil. One specimen was reared. These sweet potatoes were brought in from San Antonio. It has been found later that infested sweet potatoes in Sonora stores are quite common.

BEANS

MEXICAN BEAN BEETLE (*Epilachna corrupta* Muls.)

North Carolina — R. W. Leiby (October 27): Scouting for seasonal invasion by this insect which has just been completed shows spread of 10 miles eastward over last year on the southern edge of the State, and 50 miles eastward on the northern edge. Eight additional counties were invaded during the season of 1925. The entire part of the State west of the main line of the Southern Railway is now infested with the bean beetle.

Indiana — J. J. Davis (October 28): No reports or observations on further spread. The County Agent at Madison reports damage to soybeans near infested garden beans.

BEETS

HAWAIIAN BEET WEBWORM (*Zinkenia* (*Hymenia*) *fascialis* Cramer)

Alabama — W. F. Howard (October 13): A serious outbreak of the Hawaiian beet webworm occurred on spinach on several irrigated truck farms in the section about Birmingham on October 1. One grower suffered a loss of $2,000. This pest is often serious on beets and Swiss chard earlier in the summer. On October 9 the moths were very abundant on one field of spinach ready for the market, but the younger crops, which had been sprayed as soon as the plants were well out of the ground, were free of moths and larvae.

SOUTHERN FIELD-CROP INSECTS

COTTON

BOLL WEEVIL (*Anthonomus grandis* Boh.)

GENERAL STATEMENT

B. R. Coad : In the northern and northwestern portions of Texas there was more than a normal rainfall; however, little injury was reported from these sections. In central Texas dry weather effected practically complete control of weevils. In the section along and near the coast considerable injury throughout the season was reported, weather conditions in this section being more favorable for the development of weevils.

In Oklahoma during the growing season weevils were held in check by dry weather and little damage reported, weevils not appearing in any considerable numbers until the general migration period.

In Arkansas boll weevil injury this season was relatively light in comparison with 1922 and 1923. but somewhat greater than in 1924. In the early part of the season infestations were local and injury was rare. Weevils became generally distributed after the middle of August and destroyed late forming squares and some young bolls. The season was an unusually dry one, except for a rainy period during the latter part of July.

In northern Louisiana, spotted infestations occurred with severe injury in many fields while in other fields little or no injury was reported. Injury as a whole was considered light. The weather conditions, except for a short period in July, were unfavorable for weevil multiplication. In Southern Louisiana weather conditions were more favorable for weevil development and a greater number emerged from hibernation in the spring causing severe injury in many local areas and generally much more injury than in the northern portion.

In Mississippi weevil injury throughout the State was reported as exceedingly light, the greater injury occurring in the Delta and northeastern sections. Weather conditions practically throughout the state have been unfavorable to weevil multiplication.

In the extreme western portions of Tennessee some weevil injury in local areas was reported. In the central and eastern portions practically no injury occurred due to extremely dry weather conditions.

In the northern portion of Alabama little weevil injury was reported. In the southern portion high infestations were reported in certain local areas with considerable injury. Injury generally was much greater than in the northern portion of the State.

The northern portion of Georgia experienced one of the driest seasons in its history, there having been no general rains after the first of April. Under these conditions the weevil caused very little damage and at the present time there are comparatively few weevils in the field. In the southern portion of the State weevils became abundant after the July rains, injury being spotted, light in some areas and severe in many.

In the Piedmont section of South Carolina reports indicated practically no injury by the weevil. In the Coastal Plain section an unusually large number of weevils emerged from hibernation and in fields near timber, etc., severe injury occurred from overwintered and first-brood weevils. During June and July weather conditions were favorable for weevil multiplication while in August conditions were very unfavorable due to lack of rain. Excessive shedding occurred in large areas during August. In general, weevil injury has been heavy and much greater than in 1924.

In the eastern and southern portions of North Carolina weevils were present in rather large numbers during the pre-square stage of the plant. Scattered showers throughout these portions of the State made conditions favorable for weevil multiplication during the season and considerable injury resulted. Hot dry weather held weevils in check during the season in the central and western portion of the State.

COTTON APHID (Aphis gossypii Glover)

Georgia — O. I. Snapp (October 13): Very heavy infestation on cotton plants in locality of Fort Valley at the present time.

Louisiana — B. R. Coad: The cotton louse has been unusually abundant throughout the belt, however, only a few cases of serious injury have been reported.

COTTON LEAF WORM (Alabama argillacea Hbn.)

GENERAL STATEMENT — B. R. Coad: The leaf worm was generally distributed throughout New Mexico, Texas, Oklahoma, Arkansas, Louisiana, Tennessee, Mississippi, and Alabama. In Texas the cotton was stripped generally from central Texas south. In Oklahoma in local areas considerable injury was reported. Very little damage was reported in Arkansas. In Louisiana, defoliation is almost complete throughout the State. In northern Louisiana the first worms appeared during the last week in July. Since their appearance there have been three generations of moths. In the extreme western portion of Tennessee some injury was reported with a light infestation in other portions of the State. In Mississippi defoliation with considerable injury occurred in many areas of the State. In Alabama spotted infestations with no injury reported have occurred throughout the State.

Illinois — W. P. Flint (October 19): Adults of this moth appeared in central Illinois later than usual. A moderate infestation exists in southern Illinois cotton fields, according to S. C. Chandler, but little, if any, damage to the cotton will occur as the infestation developed too late, most of the crop having been picked.

Texas — E. W. Laake (October 20): Only one field was observed in the immediate vicinity of Dallas that was not partly or entirely defoliated by the leaf worm.

rizona — Arizona News Letter, Vol. 3, No. 9 (September 30): The following was reported by the district inspector from Safford and vicinity: "The cotton leaf worm has distributed itself well over the entire valley. This is considered good, as much of the cotton is rank and the defoliation is aiding in the maturing of the late cotton."

BOLL WORM (Heliothis obsoleta Fab.)

exas — E. W. Laake (October 29): Recent counts made in local fields and markets of late field corn show 100 per cent infestation. Many of the ears are damage to such an extent that they are unmarketable for roasting ears.

alifornia — White C. Barber (August 21): This insect is working on 90 acres of cotton in Kern County and the damage is less than one-half of 1 per cent so far.

F. R. Braun (September 23): Attacked young bolls last week in August; older bolls throughout September. Apparently all pupating by October 1.

T. D. Urbahns (September 27): The boll worm is proving to be a cotton pest in new cotton districts of the Sacramento Valley.

BROWN COTTON BUG (Euschistus servus Say)

rizona — Arizona News Letter, Vol. 3, No. 9 (September 30): The following was reported by the district inspector from Safford and vicinity. "The brown cotton bug was found in a field near Safford. By an actual count of a number of plants it was found that more than 50 per cent of the bolls had failed to mature properly."

A HYMENOPTEROUS PARASITE (Apanteles bucculatricis Mues.)

California — A. W. Morrill (September 19): I am sending a hymenopterous parasite bred from Bucculatrix thurberiella pupa, the larva having been collected on cotton at Hermosillo, Sonora. I am perhaps assuming too much in saying that this was bred from a pupa. The larva spun up and the parasite appeared from the cocoon.

COTTON LEAF PERFORATER (Bucculatrix thurberiella Busck)

California and Mexico — T. D. Urbahns (September 19): H. H. Clark, Manager of the Colorado River Land Co., Mexicali, Mex., reports serious losses to their cotton crops in Mexico and California by this species.

COTTON RED SPIDER (Tetranychus telarius L.)

GENERAL STATEMENT — B. R. Coad: An outbreak of the red spider occurred during the latter part of June and the first fifteen days of July in Arkansas, Georgia, eastern South Carolina and eastern North Carolina, disappearing, however, during the latter part of July.

COTTON FLEA (Psallus seriatus Rent.)

GENERAL STATEMENT

B. R. Coad: The hopper has been reported on cotton in central and southern Texas, throughout Louisiana, northern portions of Mississippi, throughout Georgia and South Carolina. However, the injury has been light at practically all points and even in south Texas was considerably lighter than in 1924.

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

BOXELDER

BOXELDER PLANT BUG (Leptocoris trivittatus Say)

Indiana

J. J. Davis (October 28): Continue to receive reports of great abundance from all parts of the State.

Iowa

C. N. Ainslie (October 16): This pest has been gradually increasing in numbers for several years and is a real nuisance this fall on account of its great numbers and its efforts to swarm into houses for warmth.

Nebraska

M. H. Swenk (September 25-October 25): The boxelder plant bug has been about normally abundant and annoying during the period covered by this report.

HACKBERRY

HACKBERRY NIPPLE GALL (Pachypsylla celtidis mamma Riley)

Nebraska

M. H. Swenk (September 25-October 25): Conspicuous deformation of hackberry leaves by the psyllid Pachypsylla celtidis-mamma was reported during the first half of October from localities in Nuckolls, Hall, and Dawes Counties.

A SCALE (Lecaniodiaspis celtidis Ckll.)

Nebraska

M. H. Swenk (September 25-October 25): A heavy infestation of hackberry trees in Grand Island, Hall County, with the scale insect Lecaniodiaspis celtidis was reported about the middle of September.

OAK

AN OAK CATERPILLAR (Species undetermined)

Texas

E. W. Laake (September 30): A 400-acre post oak grove in the Pleasant Grove community, Dallas County, was completely defoliated by lepidopterous larvae, apparently a species of Datana. A few scattered elm and locust trees in the grove remained untouched.

PINE

PINE LEAF SCALE (*Diaspidiotus pinifoliae* Fitch)

Ohio — E. W. Mendenhall (October 14): The pine leaf scale is quite bad in different localities in Dayton. Nicotine sulphate spray seems to be effective and soap solution is good.

CATALPA

CATALPA SPHINX (*Ceratomia catalpa* Boisd.)

Indiana — J. J. Davis (October 23): Catalpa worms not so abundant as usual but a few reports from southern Indiana.

COTTONWOOD

COTTONWOOD LEAF MINER (*Gnorimoschema scutellaris* Suff.)

Arizona — Arizona News Letter Vol. 3, No. 9 (September 30): The cottonwood leaf miner has caused a heavy shedding of the leaves of the cottonwoods throughout the Salt River Valley. The larvae of this insect become very annoying because they suspend themselves from the trees on long silk-like threads. A number of inquiries were received concerning this insect.

COTTONWOOD SCALE (*Chionaspis ortholobis* Comst.)

Nebraska — M. H. Swenk (September 25-October 25): From Holt County during the first week in October came the report of the killing of some valued willow trees by the cottonwood scale.

ELM

ELM SCURFY SCALE (*Chionaspis americana* Johns.)

Indiana — J. J. Davis (October 28): Elm scurfy scale destructive to young elms at Lafayette and other places in central Indiana.

WALNUT

RED-HUMPED CATERPILLAR (*Schizura concinna* S. & A.)

California — T. A. Willis (September 25): On black and English walnuts in Colusa County.

T. D. Urbahns (September 30): This species has been unusually abundant during the month of September at Gridley on English walnut. Apparently it is the third generation for the season.

WALNUT CURCULIO (*Conotrachelus juglandis* Lec.)

Nebraska — M. H. Swenk (September 25-October 25): A heavy infestation of the walnuts with the walnut curculio was reported early in October from Platte County.

MAPLE

BAGWORM (*Thyridopteryx ephemeraeformis* Haw.)

Indiana — J. J. Davis (October 25): Bagworms abundant as usual in the southern third of the State attacking maple, pecan, and conifers.

INSECTS ATTACKING GREENHOUSE AND ORNAMENTAL PLANTS

MISCELLANEOUS FEEDERS

STRAWBERRY FLEA BEETLE (*Haltica ignita* Ill.)

Maryland — E. N. Cory (September 29): A new insect to this range of greenhouses. Severely injuring stock and cuttings of Fuchsia and Cuphea under glass at White Marsh.

RED SPIDER (*Tetranychus bimaculatus* Harv.)

Nebraska — M. H. Swenk (September 25-October 25): Complaints of injury by the red spider continued up through the first week in October.

ROSE

ROSE MIDGE (*Dasyneura rhodophaga* Coq.)

Illinois — W. P. Flint (October 19): Several cases of damage by this insect have come to notice during the past few weeks.

A FLAT-HEADED BORER (*Agrilus viridis* var. *fagi* Ratz.)

Connecticut — W. E. Britton (October 15): Characteristic swellings on twigs, at Norwalk. Adults have not been reared. Norwalk joins Darien, whence it was reported on *Rosa rugosa* last month.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

YELLOW-FEVER MOSQUITO (*Aedes aegypti* L.)

Texas — E. W. Laake (October 20): Several reports of annoyance by the dengue-fever mosquitoes have come to this office during the past month; however, this insect has not been so abundant this fall as usual. Three cases of dengue fever, two of these during the last week of September and one this month, have been reported by the Dallas Health Department.

CATTLE

HORN FLY (*Haematobia irritans* L.)

Texas — D. C. Parman (August 26): The horn fly is increasing some in the Dry Frio Canyon; occasionally there are as many as 50 on some animals. (September 17): The horn fly has increased to a good extent in the mountains, there being from 25 to 250 on most animals. At Uvalde there has been some increase, but the flies are not noticeable, there being rarely more than 10 to 15 on any animal.

Tennessee — D. C. Parman (October 5): The horn fly at Franklin, Nashville, and Clarksville is not nearly so annoying to cattle as it usually is. It is rare to see more than 100 adults on any animal except in the river bottoms, where as many as 500 are sometimes observed.

Texas — E. W. Laake (October 20): Horn flies have not seriously annoyed cattle the latter part of this summer and, although there has been some increase in numbers during the last month, the average number per animal at dairies in the vicinity of Dallas is not over 50 to 75, and apparently many less on animals not so closely confined.

STABLE FLY (*Stomoxys calcitrans* L.)

Tennessee — D. C. Parman (October 5): The stable fly is very rarely observed, but quite a heavy infestation was observed in the Cumberland River bottoms near Ashland City, there being as many as 25 on some animals.

Texas — E. W. Laake (October 20): Stables flies have been rather scarce during the hot, dry summer. Although weather conditions were very favorable for their development during the past month, they have increased very little. This is due to the fact that oat and wheat straw stacks, their usual breeding places, are absent in this vicinity on account of an almost total failure of these crops this year.

CANYON HORSE FLY (*Tabanis rubescens* Bellardi)

Texas — D. C. Parman (August 26): More tabanids were observed on stock in the Dry Frio canyon today than have been observed during the season; none to 10 on cattle and horses. (September 17): The canyon horse fly was rarely observed today in the Dry Frio Canyon.

SCREW WORM (*Cochliomyia macellaria* Fab.)

Texas — D. C. Parman (August 26): Very rare to find new cases at this date. (September 17): Screw worm cases have increased some in the Dry Frio Canyon. The general infestations are about 1 per cent. One flock of goats that were sheared about 10 days ago have had as high as 17 per cent worm cases.

E. W. Laake (October 5): The screw-worm fly is very abundant about local packing houses. At least 60 per cent of all flies present consist of this species.

CATTLE GRUB (Hypoderma lineatum DeVill.)

Texas E. W. Laake (October 15): A considerable number of third-stage and a few young to half-grown fourth-stage larvae were found today in the backs of local dairy cows. The number of grubs up under the skin of the backs of cattle at this date is probably much heavier than in the average season.

BLACK BLOW FLY (Phormia regina Meig.)

Texas E. W. Laake (September 20): The black blow fly has been taken in traps at a local packing house during the past week. There are very few present, however. This species nearly always disappears during the summer months but as soon as the cooler weather sets in it appears again very promptly and increases very rapidly during the late fall.

POULTRY

STICKTIGHT FLEA (Echidnophaga gallinacea West.)

Texas D. C. Parman (September 1): The heavy infestations of the sticktight flea decreased during the long, hot summer but there are still some losses from this pest. A ranch was visited today where the flea is more abundant than it has been during the season, and there has been a loss of 14 hens during the last ten days from a flock of about 150. The loss of young stock has been approximately 50 per cent. All of the chickens are heavily infested and are in bad condition.

FOWL TICK (Argas miniatus Koch)

Texas D. C. Parman (September 17): The chicken tick has been noticeably abundant and losses have been had from death in many flocks, but the average of infestations is lower than normal and the infestations are lighter than usual.

INSECTS INFESTING HOUSES AND PREMISES

TERMITES

Indiana J. J. Davis (October 28): Continue to receive reports from southern Indiana of damage to buildings by termites. Several serious infestations have been observed at Lafayette.

Texas E. W. Laake (October 11): Over 30 reports of termite annoyance and injury to buildings in Dallas have been received at this office since last spring. In nearly every case injury to wall

paper and woodwork was reported. In a few instances considerable damage was done to the woodwork, necessitating the rebuilding and repapering of several rooms in one dwelling and the relaying of hardwood floors in another dwelling.

CIGARETTE BEETLE (*Lasioderma serricorne* Fab.)

Illinois W. P. Flint (October 19): Several additional cases of injury by this insect to silk-upholstered furniture have been reported during the last two months.

POWDER-POST BEETLES (Bostrichidae)

Nebraska M. H. Swenk (September 25-October 25): Another complaint of serious injury by powder-post beetles to a barn in which all of the dimension timbers and framework are of cottonwood lumber was received from Holt County during the third week in October.

I N S E C T S I N J U R I O U S T O S T O R E D P R O D U C T S

BEAN WEEVIL (*Mylabris obtectus* Say)

Nebraska M. H. Swenk (September 25-October 25): Stored-grain pests have been normally, or possibly subnormally, abundant and injurious this fall. There have been numerous complaints of the infestation of stored beans with the bean weevil during the month of October.

WEEVILS

Kansas J. W. McColloch (October 23): A good many reports are being received regarding stored-grain insects. Weevils seem to be the predominating species.

INDIAN-MEAL MOTH (*Plodia interpunctella* Hbn.)

Kansas J. W. McColloch (October 23): A seed house near Manhattan had a rather heavy infestation of the Indian-meal moth.

CADELLE (*Tenebroides mauritanicus* L.)

Kansas J. W. McColloch (October 23): A good many reports are being received regarding stored-grain insects. The cadelle seems to be the predominating species.

HERMETIA ILLUCENS L.

Virginia H. J. Henderson (October 3): These insects were found in cucumber pickles about the middle of September at Churchland. The pickles were in barrels in a small storage room. They were doing considerable damage to the cucumbers.

THE INSECT PEST SURVEY BULLETIN

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

Volume 5 1925 Index

BUREAU OF ENTOMOLOGY
UNITED STATES
DEPARTMENT OF AGRICULTURE
AND
THE STATE ENTOMOLOGICAL
AGENCIES COOPERATING

INDEX TO INSECT PEST SURVEY BULLETIN

VOLUME 5, 1925

(Common names listed separately; see page 431)

T

COMMON NAME INDEX

See

Black chrysanthemum aphid - - - - - - - - -Microsiphoniella sanborni Gill.
Black citrus aphid - - - - - - - - - - - - Toxoptera aurantiae Koch
Black flies - - - - - - - - - - - - - - - - Simulium spp.
Black gooseberry borer - - - - - - - - - - Xylocrius agassizi Lec.
Black-headed fireworm a.n.o. - - - - - - - Rhopobota naevana Huebn.
Black peach aphid a.n.o - - - - - - - - - -Anuraphis persicae-niger Smith
Bladder maple gall - - - - - - - - - - - - Phyllocoptes quadripes Shim.
Blister beetles - - - - - - - - - - - - - - Meloidae
Blood-sucking conenose - - - - - - - - - - Triatoma sanguisuga Lec.
Blossom anomala - - - - - - - - - - - - - -Anomala undulata Mels.
Blue bottle fly - - - - - - - - - - - - - -Calliphora erythrocephala Meig.
Boll weevil a.n.o. - - - - - - - - - - - - -Anthonomus grandis Boh.
Boxelder aphid a.n.o. - - - - - - - - - - -Periphyllus negundinis Thos.
Boxelder bug a.n.o. - - - - - - - - - - - -Leptocoris trivittatus Say
Boxwood leaf miner a.n.o. - - - - - - - - -Monarthropalpus buxi Labou
Broad-winged tree cricket - - - - - - - - -Oecanthus latipennis Riley
Bronze birch borer a.n.o. - - - - - - - - -Agrilus anxius Gory
Brown stink bug - - - - - - - - - - - - - -Euschistus servus Say
Brown-tail moth a.n.o. - - - - - - - - - -Euproctis chrysorrhoea L.
Buffalo treehopper a.n.o. - - - - - - - - Ceresa bubalus Fab.
Bumble flower beetle - - - - - - - - - - -Euphoria inda L.
Bumblebees - - - - - - - - - - - - - - - - -Bombus sp.

C

Cabbage aphid a.n.o. - - - - - - - - - - - -Brevicoryne brassicae L.
Cabbage curculio a.n.o. - - - - - - - - - - Ceutorhynchus rapae Gyll.
Cabbage maggot a.n.o. - - - - - - - - - - -Hylemyia brassicae Bouche
Cabbage webworm a.n.o. - - - - - - - - - -Hellula undalis Fab.
Cadelle a.n.o. - - - - - - - - - - - - - - -Tenebroides mauritanicus L.
California oak worm a.n.o. - - - - - - - -Phryganidia californica Packard
Camphor scale - - - - - - - - - - - - - - -Pseudaonidia duplex Ckll.
Canna leaf roller - - - - - - - - - - - - -Calpodes ethlius Cram.
Canyon horse fly - - - - - - - - - - - - - -Tabanus rubescens Bellardi
Carabid beetle - - - - - - - - - - - - - - Nomius pygmaeus Dej.
Carpenter bee - - - - - - - - - - - - - - -Xylocopa virginica Drury
Carpet beetle a.n.o. - - - - - - - - - - - Anthrenus scrophulariae L.
Carrot beetle a.n.o. - - - - - - - - - - - Ligyrus gibbosus DeG.
Carrot rust fly a.n.o. - - - - - - - - - - Psila rosae Fab.
Case-bearing clothes moth a.n.o. - - - - Tinea pellionella L.
Catalpa sphinx a.n.o. - - - - - - - - - - Ceratomia catalpae Boisd.
Cattle louse - - - - - - - - - - - - - - - Trichodectes scalaris Nitzsch
Cattleya fly - - - - - - - - - - - - - - - -Isosoma orchidearum Westw.
Celery leaf tyer - - - - - - - - - - - - - Phlyctaenia rubigalis Hubn.
Chain-spotted geometer a.n.o. - - - - - -Cingilia catenaria Drury
Changa a.n.o. - - - - - - - - - - - - - - -Scapteriscus vicinus Scudd.
Cherry leaf beetle - - - - - - - - - - - - Galerucella cavicollis Lec.
Chicken fluff louse - - - - - - - - - - - -Goniocotes hologaster Nitzsch
Chicken head louse - - - - - - - - - - - -Lipeurus heterographus Nitzsch
Chicken mite - - - - - - - - - - - - - - - -Dermanyssus gallinae Redi
Chiggers - - - - - - - - - - - - - - - - - -Trombicula irritans Riley
Chinch bug a.n.o. - - - - - - - - - - - - -Blissus leucopterus Say
Chrysanthemum gall midge a.n.o. - - - - -Diarthronomyia hypogaea F.Loew
Cigar case bearer a.n.o. - - - - - - - - - Coleophora fletcherella Fern.

See

Cigarette beetle a.n.o. - - - - - - - - - -Lasioderma serricorne Fab.
Citrophilus mealybug - - - - - - - - - - - --Pseudococcus gahani Green
Citrus aphid - - - - - - - - - - - - - - - - Aphis spiraecola Patch
Citrus blackfly - - - - - - - - - - - - - - Aleurocanthus woglumi Ashby
Citrus mealybug - - - - - - - - - - - - - - Pseudococcus citri Risso
Citrus whitefly - - - - - - - - - - - - - - Dialeurodes citri Ashm.
Clover aphid a.n.o. - - - - - - - - - - - - Anuraphis bakeri Cowan
Clover hay worm a.n.o. - - - - - - - - - - --Hypsopygia costalis Fab.
Clover head caterpillar a.n.o. - - - - - - Laspeyresia interstinctana Clem.
Clover leaf weevil a.n.o. - - - - - - - - -Hypera punctata Fab.
Clover mite a.n.o. - - - - - - - - - - - - --Bryobia praetiosa Koch
Clover root curculio - - - - - - - - - - -Sitona hispidulus Fab.
Clover seed chalcid a.n.o. - - - - - - - - Bruchophagus funebris Howard
Codling moth a.n.o. - - - - - - - - - - - - Carpocapsa pomonella L.
Colorado potato beetle a.n.o. - - - - - - Leptinotarsa decemlineata Say
Columbine leaf miner - - - - - - - - - - - --Phytomyza aquilegiae Hardy
Common goat louse - - - - - - - - - - - - -Trichodectes climax Nitzsch
Common red spider - - - - - - - - - - - - -Tetranychus telarius L.
Corn ear worm a.n.o. - - - - - - - - - - - --Heliothis obsoleta Fab.
Cornfield ant - - - - - - - - - - - - - - -Lasius niger L.
Corn leaf aphid - - - - - - - - - - - - - - -Aphis maidis Fitch
Corn root aphid a.n.o. - - - - - - - - - - --Anuraphis maidi-radicis Forbes
Corn root worm a.n.o. - - - - - - - - - - -Diabrotica longicornis Say
Corn silk beetle - - - - - - - - - - - - - --Luperodes varicornis Lec.
Cotton flea - - - - - - - - - - - - - - - - Psallus seriatus Reut.
Cotton leaf perforator - - - - - - - - - - Bucculatrix thurberiella Busck
Cotton square borer - - - - - - - - - - - -Uranotes melinus Hbn.
Cotton worm - - - - - - - - - - - - - - - -Alabama argillacea Hbn.
Cottonwood aphid - - - - - - - - - - - - --Chaitophorus bruneri Williams
Cottonwood leaf beetle - - - - - - - - - --Lina scripta Fab.
Cottonwood leaf miner - - - - - - - - - - -Zugophora scutellaris Suff.
Cottonwood scale - - - - - - - - - - - - - Chionaspis ortholobis Comst.
Cottonwood tent caterpillar - - - - - - - -Malacosoma californica Pack.
Cottony-cushion scale a.n.o. - - - - - - --Icerya purchasi Mask.
Cottony maple scale a.n.o. - - - - - - - --Pulvinaria vitis L.
Cottony peach scale - - - - - - - - - - - -Pulvinaria amygdali Ckll.
Cranberry flea beetle - - - - - - - - - - -Systena pallicornis Schif.
Cranberry fruit worm a.n.o. - - - - - - - -Mineola vaccinii Riley
Cranberry weevil - - - - - - - - - - - - - Anthonomus suturalis Lec.
Crane flies - - - - - - - - - - - - - - - -Tipulidae
Crickets - - - - - - - - - - - - - - - - - --Gryllidae
Currant aphid a.n.o. - - - - - - - - - - - --Myzus ribis L.
Currant borer a.n.o. - - - - - - - - - - - -Synanthedon tipuliformis L.
Cutworms - - - - - - - - - - - - - - - - - --Noctuidae
Cyclamen mite a.n.o. - - - - - - - - - - - --Tarsonemus pallidus Banks

D

Dark cherry fruit fly - - - - - - - - - - -Rhagoletis fausta O. S.
Dock false worm - - - - - - - - - - - - - -Ametastegia glabrata Fall.
Douglas fir bark beetle - - - - - - - - - -Dendroctonus pseudotsugae Hopk.
Drug-store beetle a.n.o. - - - - - - - - - Sitodrepa panicea L.

E See

Eastern field wireworm - - - - - - - - - - -Limonius agonus Say
Eastern tent caterpillar a.n.o. - - - - - - Malacosoma americana Fab.
Eggplant lacebug - - - - - - - - - - - - - -Gargaphia solani Heid.
Eight-spotted forester a.n.o. - - - - - - --Alypia octomaculata Fab.
Elm aphid - - - - - - - - - - - - - - - - - --Myzocallis ulmifolii Monell
Elm borer a.n.o. - - - - - - - - - - - - - -Saperda tridentata Oliv.
Elm cockscomb gall - - - - - - - - - - - - -Colopha ulmicola Fitch
Elm leaf beetle a.n.o. - - - - - - - - - - -Galerucella xanthomelaena Schr.
Elm leaf miner a.n.o. - - - - - - - - - - - --Kalicfenusa ulmi Sund.= (Kaliosphinga ulmi)
Elm scurfy scale - - - - - - - - - - - - - -Chionaspis americana Johns.
Elm spanworm a.n.o. - - - - - - - - - - - - -Ennomos subsignarius Huebn.
Ermine moth - - - - - - - - - - - - - - - - -Hyponomeuta malinellus Zell.
Euonymus scale a.n.o. - - - - - - - - - - - -Chionaspis euonymi Comst.
European bark louse - - - - - - - - - - - - -Cryptococcus fagi Barenspr.
European corn borer - - - - - - - - - - - - Pyrausta nubilalis Huebn.
European earwig - - - - - - - - - - - - - - --Forficula auricularia L.
European elm scale a.n.o. - - - - - - - - - Gossyparia spuria Modder
European fruit lecanium - - - - - - - - - - Lecanium corni Bouche
European red mite - - - - - - - - - - - - - Paratetranychus pilosus C. & F.
European tussock moth - - - - - - - - - - -Notolophus antiqua L.
European walnut aphid - - - - - - - - - - -Chromaphis juglandicola Kalt.
Evergreen spanworm - - - - - - - - - - - - -Thera contractata Pack.
Eye-spotted budmoth a.n.o. - - - - - - - - -Spilonata ocellana D. & S.

F

Fall armyworm a.n.o.C- - - - - - - - - - - -Laphygma frugiperda S. & A.
Fall canker worm a.n.o. - - - - - - - - - - Alsophila pometaria Harris
Fall webworm a.n.o. - - - - - - - - - - - - Hyphantria cunea Drury
False apple red bug - - - - - - - - - - - - Lygidea mendax Reut.
False tarnished plant bug - - - - - - - - - Lygus invitus Say
Fern scale - - - - - - - - - - - - - - - - -Hemichionaspis aspidistrae Sign.
Fickle midge - - - - - - - - - - - - - - - -Sciara inconstans Fab.
Field cricket a.n.o. - - - - - - - - - - - - Gryllus assimilis Fab.
Flat-headed apple tree borer a.n.o. - - - Chrysobothris femorata Oliv.
Fleas -Siphonaptera
Florida red scale a.n.o. - - - - - - - - - -Chrysomphalus aonidum L.= (C.ficus Ashm.)
Flower thrips a.n.o. - - - - - - - - - - - -Frankliniella tritici Fitch
Foot louse - - - - - - - - - - - - - - - - -Linognathus pedalis Osborn
Foreign grain beetle - - - - - - - - - - - -Cathartus advena Walt.
Forest tent caterpillar a.n.o. - - - - - - -Malacosoma disstria Hbn.
Fowl tick - - - - - - - - - - - - - - - - - Argas miniatus Koch
Fruit tree leaf roller a.n.o. - - - - - - - Cacoecia argyrospila Walk.
Fruit tree leaf syneta - - - - - - - - - - -Syneta albida Lec.
Fruit tree serica - - - - - - - - - - - - - Serica sp.
Fuller's rose beetle a.n.o. - - - - - - - - Pantomorus fulleri Horn.

G

Garden Fleahopper - - - - - - - - - - - - - Halticus citri Ashm.
Garden slug - - - - - - - - - - - - - - - - -Argiolimax agrestis L.
Garden springtail - - - - - - - - - - - - - Sminthurus hortensis Fitch
Garden webworm a.n.o. - - - - - - - - - - - Loxostege similalis Guen.

Sec

Giant skipper - - - - - - - - - - - - - - - -Epargyreus tityrus Fab.
Gloomy scale a.n.o. - - - - - - - - - - - - Chrysomphalus tenebriocosus Comst.
Glover's scale a.n.o. - - - - - - - - - - - -Lepidosaphes gloverii Pack.
Gooseberry midge - - - - - - - - - - - - - - Dasyneura grossulariae Fitch
Gouty vein gall - - - - - - - - - - - - - - -Dasyneura communis Felt.
Granary weevil a.n.o. - - - - - - - - - - - Calendra granaria L.
Grape berry moth a.n.o. - - - - - - - - - -Polychrosis viteana Clem.
Grape curculio a.n.o. - - - - - - - - - - -Craponius inaequalis Say
Grape flea beetle a.n.o. - - - - - - - - - Haltica chalybea Ill.
Grape leaf folder a.n.o. - - - - - - - - - -Desmia funeralis Hbn.
Grape leafhopper a.n.o. - - - - - - - - - -Erythroneura comes Say
Grape leaf skeletonizer a.n.o. - - - - - -Harrisina americana Guer.
Grape plume moth a.n.o. - - - - - - - - - -Oxyptilus periscelidactylus Fitch
Grape root worm a.n.o. - - - - - - - - - - Fidia viticida Walsh
Grape scale a.n.o. - - - - - - - - - - - - Aspidiotus uvae Comst.
Grape vine aphid a.n.o. - - - - - - - - - -Macrosiphum illinoisensis Shim.
Grapevine hoplia - - - - - - - - - - - - - Hoplia callipyge Lec.
Grasshoppers - - - - - - - - - - - - - - - Acridiidae
Gray citrus scale - - - - - - - - - - - - - Coccus citricola Champ.
Gray scale - - - - - - - - - - - - - - - - -Coccus pseudomagnoliarum Kw.
Great plains false wireworm - - - - - - - -Eleodes opaca Say
Green bug - - - - - - - - - - - - - - - - - Toxoptera graminum Rond.
Green clover worm a.n.o. - - - - - - - - - Plathypena scabra Fab.
Green fruit worm a.n. o. - - - - - - - - - Graptolitha antennata Walk.
Green June beetle a.n.o. - - - - - - - - - Cotinis nitida L.
Green stinkbug a.n.o. - - - - - - - - - - -Nezara hilaris Say - (Acrosternum hilari
Green-striped maple worm - - - - - - - - - Anisota rubicunda Fab.
Greenhouse leaf tyer a.n.o. - - - - - - - -Phlyctaenia rubigalis Guen.
Greenhouse orthezia - - - - - - - - - - - -Orthezia insignis Doug.
Gypsy moth a.n.o. - - - - - - - - - - - - -Porthetria dispar L.

H

Hackberry leaf gall - - - - - - - - - - - Pachypsylla celtidis-mamma Riley
Hairy goat louse - - - - - - - - - - - - - Trichodectes hermsi K. & N.
Harlequin bug a.n.o. - - - - - - - - - - - Murgantia histrionica Hahn
Hawaiian beet webworm - - - - - - - - - - -Zinkenia (Hymenia) fascialis Cramer
Hemispherical scale a.n.o. - - - - - - - - Saissetia hemisphaerica Targ.
Henhouse bedbug - - - - - - - - - - - - - -Haematosiphon inodorus Duges
Hessian fly a.n.o. - - - - - - - - - - - - -Phytophaga destructor Say
Hide beetle - - - - - - - - - - - - - - - - -Dermestes vulpinus Fab.
Hog louse a.n.o. - - - - - - - - - - - - - -Haematopinus suis L.
Holly leaf-miner - - - - - - - - - - - - - Phytomyza ilicis Curtis
Hop aphid a.n.o. - - - - - - - - - - - - - Phorodon humuli Schrank
Horn fly a.n.o. - - - - - - - - - - - - - - Haematobia irritans L.
Horse botfly a.n.o. - - - - - - - - - - - - Gastrophilus intestinalis DeG.
Horse flies - - - - - - - - - - - - - - - - -Tabanus spp.
Horse louse - - - - - - - - - - - - - - - - -Haematopinus asini L.
Horseradish flea beetle a.n.o. - - - - - - Phyllotreta armoraciae Koch
Hourglass spider - - - - - - - - - - - - - Lathrodectes mactans Fab.
House cricket a.n.o. - - - - - - - - - - - Gryllus domesticus L.
House fly a.n.o. - - - - - - - - - - - - - Musca domestica L.
Human flea - - - - - - - - - - - - - - - - Pulex irritans L.

See

I

Imbricated snout beetle a.n.o. - - - - - - -Epicaerus imbricatus Say
Imported cabbage worm a.n.o. - - - - - - - -Pieris rapae L.
Imported currant worm a.n.o. - - - - - - - -Pteronidea ribesi Scop.
Indian-meal moth a.n.o. - - - - - - - - - - -Plodia interpunctella Huebn.
Introduced pine sawfly a.n.o. - - - - - - - Diprion simile Hartig
Iris borer a.n.o. - - - - - - - - - - - - - - Macronoctua onusta Grote
Ivy scale - - - - - - - - - - - - - - - - - - Aspidiotus hederae Vallot

J

Joint worm - - - - - - - - - - - - - - - - - Harmolita tritici Fitch
Juniper webworm - - - - - - - - - - - - - - -Dichomeris marginellus Fab.

L

Larch case bearer a.n.o. - - - - - - - - - - Coleophora laricella Hubn.
Larch sawfly a.n.o. - - - - - - - - - - - - - Nematus erichsonii Hartig
Larder beetle a.n.o. - - - - - - - - - - - - Dermestes lardarius L.
Large hen louse - - - - - - - - - - - - - - -Menopon biseriatum Piaget
Leaf crumpler a.n.o. - - - - - - - - - - - - Mineola indiginella Zell.
Leaf-footed bug a.n.o. - - - - - - - - - - - Leptoglossus phyllopus L.
Leopard moth a.n.o. - - - - - - - - - - - - -Zeuzera pyrina L.
Lesser apple worm a.n.o. - - - - - - - - - - Laspeyresia prunivora Walsh
Lesser bulb fly - - - - - - - - - - - - - - -Eumerus strigatus Fallen
Lesser clover-leaf weevil - - - - - - - - -Phytonomus nigrirostris Fab.
Lesser corn stalk borer a.n.o. - - - - - - -Elasmopalpus lignosellus Zell.
Lesser peach tree borer - - - - - - - - - -Aegeria pictipes G. & R.
Lilac borer a.n.o. - - - - - - - - - - - - - -Podosesia syringae Harr.
Lima bean stem borer - - - - - - - - - - - - Monoptilota pergratialis Hlst.
Lime-tree looper a.n.o. - - - - - - - - - - -Erannis tiliaria Harris
Locust borer a.n.o. - - - - - - - - - - - - -Cyllene robiniae Forst.
Locust leaf miner - - - - - - - - - - - - - -Chalepus dorsalis Thunb.
Locust twig borer - - - - - - - - - - - - - -Eudytolopha insiticiana Zell.
Lubber grasshopper a.n.o. - - - - - - - - -Brachystola magna Gir.

M

Magnolia scale a.n.o. - - - - - - - - - - - -Neolecanium cornuparvum Thos.
Maple leaf cutter - - - - - - - - - - - - - -Paraclemensia acerifoliella Fitch
Maple phenacoccus - - - - - - - - - - - - - -Phenacoccus acericola King
May beetles - - - - - - - - - - - - - - - - -Phyllophaga spp.
Meadow plant bug - - - - - - - - - - - - - -Miris dolobratus L.
Meal moth a.n.o. - - - - - - - - - - - - - - Pyralis farinalis Comst.
Mealy plum aphid a.n.o. - - - - - - - - - - Hyalopterus arundinis Fab.
Mediterranean fruit fly a.n.o. - - - - - - Ceratitis capitata Wied.
Mediterranean flour moth a.n.o. - - - - - -Ephestia kuehniella Zell.
Melon aphid a.n.o. - - - - - - - - - - - - - -Aphis gossypii Glov.
Melon worm a.n.o. - - - - - - - - - - - - - -Diaphania hyalinata L.
Mexican bean beetle a.n.o. - - - - - - - - Epilachna corrupta Muls.
Millipedes - - - - - - - - - - - - - - - - - Myriopoda
Morgan's scale - - - - - - - - - - - - - - - Chrysomphalus dictyospermi Morg.

See

Mormon cricket - - - - - - - - - - - - - - - - Anabrus simplex Hald.
Mossy rose gall - - - - - - - - - - - - - - - (Rhodites) Diplolepis rosae L.
Mosquitoes - - - - - - - - - - - - - - - - - - Culicidae

N

Nantucket tip moth - - - - - - - - - - - - - - Rhyacionia frustrana Comst.
New York weevil a.n.o. - - - - - - - - - - - - Ithycerus noveboracensis Forst.
Northern mole cricket a.n.o. - - - - - - - - Gryllotalpa hexadactyla Perty
Nose bot fly - - - - - - - - - - - - - - - - - Gastrophilus haemorrhoidalis L.

O

Oak eriococcus - - - - - - - - - - - - - - - - Eriococcus quercus Comst.
Oak lecanium - - - - - - - - - - - - - - - - - Lecanium quercifex Fitch
Obscure scale a.n.o. - - - - - - - - - - - - - Chrysomphalus obscurus Comst.
Olive fruit-fly - - - - - - - - - - - - - - - - Dacus oleae Rossi
Onion maggot a.n.o. - - - - - - - - - - - - - - Hylemyia antiqua Meig.
Onion thrips a.n.o. - - - - - - - - - - - - - - Thrips tabaci L.
Orange thrips a.n.o. - - - - - - - - - - - - - Euthrips citri Moulton
Oriental moth a.n.o. - - - - - - - - - - - - - Cnidocampa flavescens Walk.
Oriental fruit moth - - - - - - - - - - - - - - Laspeyresia molesta Busck
Ox warble - - - - - - - - - - - - - - - - - - - Hypoderma lineatum DeVill.
Oyster-shell scale a.n.o. - - - - - - - - - - Lepidosaphes ulmi L.

P

Painted lady - - - - - - - - - - - - - - - - - Vanessa cardui L.
Pale western cutworm - - - - - - - - - - - - - Porosagrotis orthogonia Morr.
Parlatoria date scale - - - - - - - - - - - - - Parlatoria blanchardi Targ.
Parsley stalk weevil - - - - - - - - - - - - - Listronotus latiusculus Boh.
Pea aphid a.n.o. - - - - - - - - - - - - - - - Illinoia pisi Kalt.
Peach bark beetle a.n.o. - - - - - - - - - - - Phloeotribus liminaris Harr.
Peach borer a.n.o. - - - - - - - - - - - - - - Aegeria exitiosa Say
Peach twig borer a.n.o. - - - - - - - - - - - Anarsia lineatella Zell.
Pear-leaf blister mite a.n.o. - - - - - - - - Eriophyes pyri Pgst.
Pear leaf rust mite - - - - - - - - - - - - - Epitrimerus pyri Nalepa
Pear midge a.n.o. - - - - - - - - - - - - - - Contarinia pyrivora Riley
Pear plant bug a.n.o. - - - - - - - - - - - - Lygus communis Knight
Pear psylla a.n.o. - - - - - - - - - - - - - - Psylla pyricola Foerst.
Pear slug a.n.o. - - - - - - - - - - - - - - - Caliroa cerasi L.
Pear thrips a.n.o. - - - - - - - - - - - - - - Taeniothrips inconsequens Uzel
Pecan budworm - - - - - - - - - - - - - - - - Proteopteryx belliana Sling.
Pecan cossid - - - - - - - - - - - - - - - - - Cossula magnifica Stkr.
Pepper weevil - - - - - - - - - - - - - - - - Anthonomus eugenii Cano
Periodical cicada a.n.o. - - - - - - - - - - - Tibicina septendecim L.
Persimmon psyllid - - - - - - - - - - - - - - Trioza diospyri Ashm.
Phalacrid beetle - - - - - - - - - - - - - - - Eustilbus apicalis Melsh.
Pickle worm a.n.o. - - - - - - - - - - - - - - Diaphania nitidalis Cramer
Pine bark beetle - - - - - - - - - - - - - - - Dendroctonus sp.
Pine bark louse - - - - - - - - - - - - - - - Chermes pinicorticis Fitch
Pine scale - - - - - - - - - - - - - - - - - - Chionaspis pinifoliae Fitch
Pine shoot moth - - - - - - - - - - - - - - - Rhyacionia buoliana Schiff.
Pink bollworm a.n.o. - - - - - - - - - - - - - Pectinophora gossypiella Saund.

See

Pistol case bearer a.n.o. - - - - - - - - Coleophora malivorella Riley
Plum aphid - - - - - - - - - - - - - - - - Myzus mahaleb Fons.
Plum curculio a.n.o. - - - - - - - - - - -Conotrachelus nenuphar Host.
Plum gouger a.n.o. - - - - - - - - - - - -Anthonomus scutellaris Lec.
Poplar borer a.n.o. - - - - - - - - - - - -Saperda calcarata Say
Poplar vagabond gall - - - - - - - - - - -Mordvilkoja vagabunda Walsh
Potato aphid a.n.o. - - - - - - - - - - - Illinoia solanifolii Ashm.
Potato flea beetle a.n.o. - - - - - - - - Epitrix cucumeris Harr.
Potato tuber worm a.n.o. - - - - - - - - Phthorimaea operculella Zell.
Powder post beetle - - - - - - - - - - - -Lyctus planicollis Lec.
Purple scale a.n.o. - - - - - - - - - - - Lepidosaphes beckii Newm.
Puss caterpillar - - - - - - - - - - - - -Lagoa crispata Pack.
Putnam's scale a.n.o. - - - - - - - - - - Aspidiotus ancylus Putn.

Q

Quince curculio - - - - - - - - - - - - - Conotrachelus crataegi Walsh

R

Radish weevil - - - - - - - - - - - - - - Cleonus sparsus Lec.
Raspberry cane borer a.n.o. - - - - - - - Oberea bimaculata Oliv.
Raspberry cane maggot a.n.o. - - - - - - -Phorbia rubivora Coq.= (Pegomya rubivora)
Raspberry fruitworm - - - - - - - - - - -Byturus unicolor Say
Raspberry sawfly a.n.o. - - - - - - - - - -Monophadnoides rubi Harris
Red-backed cutworm a.n.o. - - - - - - - - Euxoa ochrogaster Guen.
Red-banded leaf roller- - - - - - - - - - Eulia velutinana Walk.
Red-headed flea beetle - - - - - - - - - -Systena frontalis Fab.
Red-humped caterpillar a.n.o. - - - - - - -Schizura concinna S. & A.
Red-humped oak caterpillar - - - - - - - -Symmerista albifrons S. & A.
Red-legged flea beetle a.n.o. - - - - - - Crepidodera erythropus Melsh.
Red-necked cane borer - - - - - - - - - - Agrilus ruficollis Fab.
Red-shouldered shot-hole borer - - - - - -Xylobiops basilaris Say
Rhododendron lacebug a.n.o. - - - - - - - Stephanitis rhododendri Horv.
Rice stalk borer - - - - - - - - - - - - -Chilo plejadellus Zinck.
Rice stink bug - - - - - - - - - - - - - -Solubea pugnax Fab.
Rice water weevil a.n. o. - - - - - - - - Lissorhoptrus simplex Say
Rose aphid - - - - - - - - - - - - - - - - Macrosiphum rosae L.
Rose chafer a.n.o. - - - - - - - - - - - - Macrodactylus subspinosus Fab.
Rose curculio a.n.o. - - - - - - - - - - -Rhynchites bicolor Fab.
Rose leaf beetle - - - - - - - - - - - - - -Nodonota puncticollis Say
Rose leafhopper - - - - - - - - - - - - - Empoa rosae L.
Rose leaf roller - - - - - - - - - - - - - Archips rosaceana Harr.
Rose midge a.n.o. - - - - - - - - - - - - Dasyneura rhodophaga Coq.
Rose sawfly a.n.o. - - - - - - - - - - - -Caliroa aethiops Fab.
Rosy apple aphid - - - - - - - - - - - - -Anuraphis roseus Baker
Round-headed apple tree borer a.n.o. - -Saperda candida Fab.
Rove beetles- - - - - - - - - - - - - - - -Staphylinidae
Rusty plum aphid a.n.o. - - - - - - - - - Hysteroneura setariae Thomas

S

Salt-marsh caterpillar a.n.o. - - - - - - Estigmena acraea Drury
San Jose scale a.n.o. - - - - - - - - - - Aspidiotus perniciosus Comst.

See

Satin moth - - - - - - - - - - - - - - - - Stilpnotia salicis L.
Sawflies - - - - - - - - - - - - - - - - - Sterictophora ebena Norton
Saw-toothed grain beetle a.n.o. - - - - - Oryzaephilus surinamensis L.
Screw worm a.n.o. - - - - - - - - - - - - Cochliomyia macellaria Fab.
Scurfy scale a.n.o. - - - - - - - - - - - Chionaspis furfura Fitch
Seed corn maggot a.n.o. - - - - - - - - - Hylemyia cilicrura Rond.
Semitropical armyworm - - - - - - - - - - Xylomyges eridania Cram.
Serica beetle - - - - - - - - - - - - - - Serica fimbriata Lec.
Serpentine leaf miner a.n.o. - - - - - - Agromyza pusilla Meig.
Sheep bot fly - - - - - - - - - - - - - - Oestrus ovis L.
Sheep tick a.n.o. - - - - - - - - - - - - Melophagus ovinus L.
Short-nosed cattle louse - - - - - - - - -Haematopinus eurysternus Nitzsch
Shot-hole borer a.n.o. - - - - - - - - - Scolytus rugulosus Ratz.
Sinuate pear tree borer a.n.o. - - - - - Agrilus sinuatus Oliv.
Six-spotted grape beetle - - - - - - - - Pelidnota punctata L.
Six-spotted leafhopper a.n.o. - - - - - - Cicadula sexnotata Fab.
Small body hen louse - - - - - - - - - - -Menopon pallidum Nitzsch
Snowball aphid - - - - - - - - - - - - - -Anuraphis viburnicola Gill.
Snowy tree cricket a.n.o. - - - - - - - - Oecanthus niveus DeG.
Soft scale a.n.o. - - - - - - - - - - - - Coccus hesperidum L.
Sorghum midge - - - - - - - - - - - - - - Contarinia sorghicola Coq.
Southern cabbage worm a.n.o. - - - - - - Pieris protodice Boisd.
Southern green stinkbug - - - - - - - - - Nezara viridula L.
Southern lubber grasshopper - - - - - - - Romalea microptera Beauv.
Southern pine beetle a.n.o. - - - - - - - Dendroctonus frontalis Zimm.
Spinach leaf miner - - - - - - - - - - - -Pegomya hyoscyami Panz.
Spinose ear tick - - - - - - - - - - - - -Ornithodoros megnini Duges
Spiny elm caterpillar - - - - - - - - - - -Euvanessa antiopa L.
Spiny witch-hazel gall - - - - - - - - - -Hamamelistes spinosus Shim.
Spiraea aphid - - - - - - - - - - - - - - Aphis spireaella Schout.
Spotted blister beetle a.n.o. - - - - - - Epicauta maculata Say
Spotted cucumber beetle a.n.o. - - - - - -Diabrotica 12-punctata Fab.
Spotted fever tick - - - - - - - - - - - -Dermacentor venustus Banks
Spring canker worm a.n.o. - - - - - - - - -Paleacrita vernata Peck
Springtails - - - - - - - - - - - - - - - Smynthurus sp.
Spruce budworm a.n.o. - - - - - - - - - - Harmologa fumiferana Clem.
Spruce gall aphid - - - - - - - - - - - - Chermes abietis L.
Squash borer a.n.o. - - - - - - - - - - -Melittia satyriniformis Hbn.
Squash bug - - - - - - - - - - - - - - - -Anasa tristis DeG.
Stable fly a.n.o. - - - - - - - - - - - - Stomoxys calcitrans L.
Stalk borer a.n.o. - - - - - - - - - - - -Papaipema nitela Guen.
Sticktight flea - - - - - - - - - - - - - Echidnophaga gallinacea Westw.
Strawberry crown borer a.n.o. - - - - - - Tyloderma fragariae Riley
Strawberry crown moth a.n.o. - - - - - - Synanthedon rutilans Hy.Edw.
Strawberry flea beetle a.n.o. - - - - - - Haltica ignita Ill.
Strawberry leaf roller a.n.o. - - - - - - Ancylis comptana Froehl.
Strawberry root aphid - - - - - - - - - - Aphis forbesi Weed.
Strawberry weevil a.n.o. - - - - - - - - Anthonomus signatus Say
Striped blister beetle a.n.o. - - - - - - Epicauta vittata Fab.
Striped cucumber beetle a.n.o. - - - - - Diabrotica vittata Fab.
Striped flea beetle - - - - - - - - - - - Phyllotretra vittata Fab.
Striped tree cricket - - - - - - - - - - Oecanthus nigricornis Walk.
Sucking goat louse - - - - - - - - - - - -Linognathus stenopsis Burm.
Sugarbeet leafhopper - - - - - - - - - - -Eutettix tenellus Baker
Sugarbeet nematode - - - - - - - - - - - -Heterodera schachtii Sch.

See

Pistol case bearer a.n.o. - - - - - - - - Coleophora malivorella Riley
Plum aphid - - - - - - - - - - - - - - - - Myzus mahaleb Fons.
Plum curculio a.n.o. - - - - - - - - - - Conotrachelus nenuphar Host.
Plum gouger a.n.o. - - - - - - - - - - - Anthonomus scutellaris Lec.
Poplar borer a.n.o. - - - - - - - - - - - Saperda calcarata Say
Poplar vagabond gall - - - - - - - - - - Mordvilkoja vagabunda Walsh
Potato aphid a.n.o. - - - - - - - - - - - Illinoia solanifolii Ashm.
Potato flea beetle a.n.o. - - - - - - - - Epitrix cucumeris Harr.
Potato tuber worm a.n.o. - - - - - - - - Phthorimaea operculella Zell.
Powder post beetle - - - - - - - - - - - Lyctus planicollis Lec.
Purple scale a.n.o. - - - - - - - - - - - Lepidosaphes beckii Newm.
Puss caterpillar - - - - - - - - - - - - Lagoa crispata Pack.
Putnam's scale a.n.o. - - - - - - - - - - Aspidiotus ancylus Putn.

Q

Quince curculio - - - - - - - - - - - - - Conotrachelus crataegi Walsh

R

Radish weevil - - - - - - - - - - - - - - Cleonus sparsus Lec.
Raspberry cane borer a.n.o. - - - - - - - Oberea bimaculata Oliv.
Raspberry cane maggot a.n.o. - - - - - - Phorbia rubivora Coq.= (Pegomya rubivora)
Raspberry fruitworm - - - - - - - - - - Byturus unicolor Say
Raspberry sawfly a.n.o. - - - - - - - - - Monophadnoides rubi Harris
Red-backed cutworm a.n.o. - - - - - - - - Euxoa ochrogaster Guen.
Red-banded leaf roller- - - - - - - - - - Eulia velutinana Walk.
Red-headed flea beetle - - - - - - - - - Systena frontalis Fab.
Red-humped caterpillar a.n.o. - - - - - - Schizura concinna S. & A.
Red-humped oak caterpillar - - - - - - - Symmerista albifrons S. & A.
Red-legged flea beetle a.n.o. - - - - - - Crepidodera erythropus Melsh.
Red-necked cane borer - - - - - - - - - - Agrilus ruficollis Fab.
Red-shouldered shot-hole borer - - - - - Xylobiops basilaris Say
Rhododendron lacebug a.n.o. - - - - - - - Stephanitis rhododendri Horv.
Rice stalk borer - - - - - - - - - - - - Chilo plejadellus Zinck.
Rice stink bug - - - - - - - - - - - - - Solubea pugnax Fab.
Rice water weevil a.n. o. - - - - - - - - Lissorhoptrus simplex Say
Rose aphid - - - - - - - - - - - - - - - Macrosiphum rosae L.
Rose chafer a.n.o. - - - - - - - - - - - Macrodactylus subspinosus Fab.
Rose curculio a.n.o. - - - - - - - - - - Rhynchites bicolor Fab.
Rose leaf beetle - - - - - - - - - - - - Nodonota puncticollis Say
Rose leafhopper - - - - - - - - - - - - - Empoa rosae L.
Rose leaf roller - - - - - - - - - - - - Archips rosaceana Harr.
Rose midge a.n.o. - - - - - - - - - - - - Dasyneura rhodophaga Coq.
Rose sawfly a.n.o. - - - - - - - - - - - Caliroa aethiops Fab.
Rosy apple aphid - - - - - - - - - - - - Anuraphis roseus Baker
Round-headed apple tree borer a.n.o. - - Saperda candida Fab.
Rove beetles- - - - - - - - - - - - - - - Staphylinidae
Rusty plum aphid a.n.o. - - - - - - - - - Hysteroneura setariae Thomas

S

Salt-marsh caterpillar a.n.o. - - - - - - Estigmena acraea Drury
San Jose scale a.n.o. - - - - - - - - - - Aspidiotus perniciosus Comst.

See

Satin moth - - - - - - - - - - - - - - - - Stilpnotia salicis L.
Sawflies - - - - - - - - - - - - - - - - - Sterictophora ebena Norton
Saw-toothed grain beetle a.n.o. - - - - - Cryzaephilus surinamensis L.
Screw worm a.n.o. - - - - - - - - - - - - Cochliomyia macellaria Fab.
Scurfy scale a.n.o. - - - - - - - - - - - Chionaspis furfura Fitch
Seed corn maggot a.n.o. - - - - - - - - - Hylemyia cilicrura Rond.
Semitropical armyworm - - - - - - - - - - Xylomyges eridania Cram.
Serica beetle - - - - - - - - - - - - - - Serica fimbriata Lec.
Serpentine leaf miner a.n.o. - - - - - - Agromyza pusilla Meig.
Sheep bot fly - - - - - - - - - - - - - - Oestrus ovis L.
Sheep tick a.n.o. - - - - - - - - - - - - Melophagus ovinus L.
Short-nosed cattle louse - - - - - - - - -Haematopinus eurysternus Nitzsch
Shot-hole borer a.n.o. - - - - - - - - - Scolytus rugulosus Ratz.
Sinuate pear tree borer a.n.o. - - - - - Agrilus sinuatus Oliv.
Six-spotted grape beetle - - - - - - - - Pelidnota punctata L.
Six-spotted leafhopper a.n.o. - - - - - - Cicadula sexnotata Fab.
Small body hen louse - - - - - - - - - - -Menopon pallidum Nitzsch
Snowball aphid - - - - - - - - - - - - - -Anuraphis viburnicola Gill.
Snowy tree cricket a.n.o. - - - - - - - - Oecanthus niveus DeG.
Soft scale a.n.o. - - - - - - - - - - - - Coccus hesperidum L.
Sorghum midge - - - - - - - - - - - - - - Contarinia sorghicola Coq.
Southern cabbage worm a.n.o. - - - - - - Pieris protodice Boisd.
Southern green stinkbug - - - - - - - - - Nezara viridula L.
Southern lubber grasshopper - - - - - - - Romalea microptera Beauv.
Southern pine beetle a.n.o. - - - - - - - Dendroctonus frontalis Zimm.
Spinach leaf miner - - - - - - - - - - - -Pegomya hyoscyami Panz.
Spinose ear tick - - - - - - - - - - - - -Ornithodoros megnini Duges
Spiny elm caterpillar - - - - - - - - - - -Euvanessa antiopa L.
Spiny witch-hazel gall - - - - - - - - - -Hamamelistes spinosus Shim.
Spiraea aphid - - - - - - - - - - - - - - Aphis spireaella Schout.
Spotted blister beetle a.n.o. - - - - - - Epicauta maculata Say
Spotted cucumber beetle a.n.o. - - - - - -Diabrotica 12-punctata Fab.
Spotted fever tick - - - - - - - - - - - -Dermacentor venustus Banks
Spring canker worm a.n.o. - - - - - - - - -Paleacrita vernata Peck
Springtails - - - - - - - - - - - - - - - Smynthurus sp.
Spruce budworm a.n.o. - - - - - - - - - - Harmologa fumiferana Clem.
Spruce gall aphid - - - - - - - - - - - - Chermes abietis L.
Squash borer a.n.o. - - - - - - - - - - -Melittia satyriniformis Hbn.
Squash bug - - - - - - - - - - - - - - - -Anasa tristis DeG.
Stable fly a.n.o. - - - - - - - - - - - - Stomoxys calcitrans L.
Stalk borer a.n.o. - - - - - - - - - - - -Papaipema nitela Guen.
Sticktight flea - - - - - - - - - - - - - Echidnophaga gallinacea Westw.
Strawberry crown borer a.n.o. - - - - - - Tyloderma fragariae Riley
Strawberry crown moth a.n.o. - - - - - - Synanthedon rutilans Hy.Edw.
Strawberry flea beetle a.n.o. - - - - - - Haltica ignita Ill.
Strawberry leaf roller a.n.o. - - - - - - Ancylis comptana Froehl.
Strawberry root aphid - - - - - - - - - - Aphis forbesi Weed.
Strawberry weevil a.n.o. - - - - - - - - - Anthonomus signatus Say
Striped blister beetle a.n.o. - - - - - - Epicauta vittata Fab.
Striped cucumber beetle a.n.o. - - - - - Diabrotica vittata Fab.
Striped flea beetle - - - - - - - - - - - Phyllotretra vittata Fab.
Striped tree cricket - - - - - - - - - - Oecanthus nigricornis Walk.
Sucking goat louse - - - - - - - - - - - -Linognathus stenopsis Burm.
Sugarbeet leafhopper - - - - - - - - - - -Eutettix tenellus Baker
Sugarbeet nematode - - - - - - - - - - - -Heterodera schachtii Sch.

See

Sugarbeet wireworm - - - - - - - - - - - - -Phelotes californicus Mann.
Sugarcane beetle a.n.o. - - - - - - - - - Euetheola rugiceps Lec.
Sugarcane borer a.n.o. - - - - - - - - - -Diatraea saccharalis Fab.
Sugarcane leaf scale - - - - - - - - - - -Pulvinaria iceryi Guer.
Sunflower weevil - - - - - - - - - - - - - ---Rhodobaenus tredecimpunctatus Ill.
Surinam roach - - - - - - - - - - - - - - - --Pycnoscelus surinamensis L.
Sweet-potato weevil a.m. o. - - - - - - - --Cylas formicarius Fab.

T

Tarnished plant bug a.n.o. - - - - - - - - Lygus pratensis L.
Terrapin scale a.n.o. - - - - - - - - - - -- Eulecanium nigrofasciatum Perg.
Three lined fig borer - - - - - - - - - - -Ptychodes trilineatus L.
Thrips - - - - - - - - - - - - - - - - - - - Thysanoptera
Throat bot fly - - - - - - - - - - - - - - - Gastrophilus nasalis L.
Tiny red ant - - - - - - - - - - - - - - - - Monomorium pharaonis L.
Tobacco budworm - - - - - - - - - - - - - -Heliothis virescens Fab.
Tobacco flea beetle a.n.o. - - - - - - - - Epitrix parvula Fab.
Tobacco thrips - - - - - - - - - - - - - - Frankliniella fusca Hinds
Tobacco worm a.n.o. - - - - - - - - - - - - Protoparce quinquemaculata Haw.
Tomato suckfly - - - - - - - - - - - - - - Dicyphus minimus Uhler
Tomato worm a.n.o - - - - - - - - - - - - - Protoparce sexta Joh.
Tortoise beetles - - - - - - - - - - - - - -Cassidinae
Tulip scale - - - - - - - - - - - - - - - - -Toumeyella liriodendri Gmel.
Turkish lead cable borer - - - - - - - - - --Sinoxylon sexdentatum Oliv.
Turnip aphid a.n.o. - - - - - - - - - - - - -Rhopalosiphum pseudobrassicae Davis

U

Ugly-nest caterpillar - - - - - - - - - - -Archips cerasivorana Fitch

V

Variegated cutworm a.n.o. - - - - - - - - -Lycophotia margaritosa Haw.
Velvet bean caterpillar - - - - - - - - - -Anticarsia gemmatilis Hbn.

W

Walnut blister mite - - - - - - - - - - - -Eriophyes tristriatus Nalepa
Walnut caterpillar a.n.o. - - - - - - - - -Datana integerrima G. & R.
Walnut curculio - - - - - - - - - - - - - -Conotrachelus juglandis Lec.
Webworms - - - - - - - - - - - - - - - - - --Crambus caliginosellus Clem.
West Indian cane leafhopper - - - - - - - -Saccharasydne (Delphax) saccharivora Wes
West Indian fruit fly a.n.o - - - - - - - -Anastrepha fraterculus Wied.
West Indian peach scale - - - - - - - - - -Aulacaspis pentagona Targ.
Western cedar borer - - - - - - - - - - - -Trachykele blondeli Mars.
Western spotted cucumber beetle a.n.o.- -Diabrotica soror Lec.
Western wheat stem maggot - - - - - - - - -Hylemyia cerealis Gill.
Western wheat stem sawfly - - - - - - - - -Cephus cinctus Norton
Wheat stem maggot a.n.o. - - - - - - - - - Meromyza americana Fitch
Wheat stem sawfly - - - - - - - - - - - - --Cephus pygmaeus L.

See

Wheat straw worm a.n.o. - - - - - - - - - Harmolita grandis Riley
Wheat wireworm a.n.o. - - - - - - - - - Agriotes mancus Sey
Whiteflies - - - - - - - - - - - - - - - Aleurodidae
White grubs - - - - - - - - - - - - - - - Phyllophaga spp.
White-marked tussock moth a.n.o. - - - Hemerocampa leucostigma S. & A.
White pine sawfly - - - - - - - - - - - - Neodiprion pinetum Norton
White-pine weevil a.n.o. - - - - - - - - - Pissodes strobi Peck
Wireworms - - - - - - - - - - - - - - - - Elateridae
Woolly apple aphid a.n.o. - - - - - - - - Eriosoma lanigerum Hausm.

Y

Yellow-fever mosquito a.n.o. - - - - - Aedes aegypti L.
Yellow-headed fireworm a.n.o. - - - - - - Peronea minuta Rob.
Yellow-necked caterpillar a.n.o. - - - - Datana ministra Drury
Yellow-striped armyworm a.n.o. - - - - - Prodenia ornithogalli Guen.
Yellow woolly bear - - - - - - - - - - - Diacrisia virginica Fab.

Z

Zebra caterpillar a.n.o. - - - - - - - - - Mamestra picta Harr.