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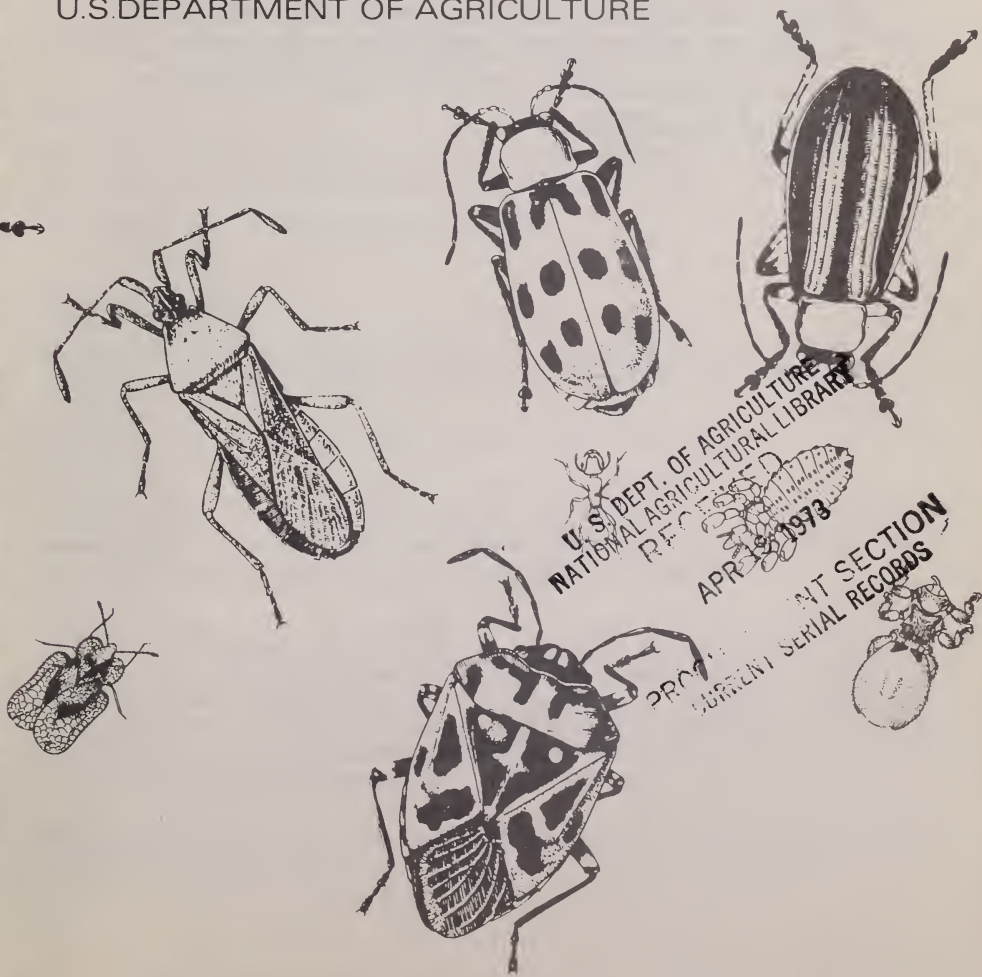
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Cooperative Economic Insect Report

Issued by
PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
U.S. DEPARTMENT OF AGRICULTURE



ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

ALFALFA WEEVIL activity increased in Rolling Plains of Texas, infestation heavy in south-central Oklahoma; populations lighter than expected in southern Illinois. EGYPTIAN ALFALFA WEEVIL built up in alfalfa on west side of Salt River Valley in Arizona. (pp. 181-182).

CITRUS RED MITE buildup heavy on citrus in southwest Arizona. (p. 183).

For second consecutive week, no confirmed SCREWORM cases reported in continental U.S. (p. 184).

Prediction

FALL CANKERWORM expected to cause heavy defoliation of forest trees in Dolly Sods area of West Virginia this season. (p. 184).

Detection

New State records include CUBAN LAURAL THRIPS in New Mexico (p. 183) and two SOFT SCALES in Hawaii (p. 187).

For new county records see page 186.

Special Reports

Summary of Insect Conditions in the United States - 1972
Federal and State Plant Protection Programs (pp. 188-194).
Contributors (pp. 194-195).

Distribution of Cereal Leaf Beetle. Map. (p. 189).

Insects Not Known to Occur in the United States
Red Pumpkin Bug (Coridius janus (Fabricius)). (pp. 197-198).

Some First Occurrences of the Season

ARMY CUTWORM larvae in Kansas. CLOVER LEAF WEEVIL in Kansas, Missouri, Illinois, Wisconsin. LESSER CLOVER LEAF WEEVIL larvae in Wisconsin. CLOVER ROOT CURCULIO adults in Kansas. WESTERN YELLOWSTRIPED ARMYWORM adults in Washington. ALFALFA CATERPILLAR larva in Idaho. Adults of several FRUITWORMS in Ohio. FOREST TENT CATERPILLAR larvae in Kentucky. SPRING CANKERWORM female and male moths in Kansas.

Reports in this issue are for week ending March 23 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING MARCH 26

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

PRECIPITATION: Four inches of rain soaked the already wet soils of the lower Mississippi River Delta late last week and Sunday, March 25. The same storm dumped 2 to 4 inches in sections of Texas, Mississippi, Alabama, and Florida. Further north, Missouri recorded almost record amounts of rainfall for this time of year. Meanwhile, Flagstaff, Arizona, set a new snowfall record; 177 inches of snow so far this winter topping the old record of 167 inches in the winter of 1948-49. Nationwide, the first week of spring was moderate precipitation wise. Monday, three storms highlighted the last day of winter. One Low, northeast of Maine, caused 6 foot waves in Lake Ontario and spread clouds over the East. A second Low spread rain and thunderstorms over much of the middle Mississippi River Valley and the Plains. A third dumped rain from central California through western Washington. Spring began on a rainy Tuesday. A Low moving from Oklahoma to Tennessee brought over 2 inches of rain to the Mississippi River Valley, thunderstorms to the gulf coast, saturated soils, and flooded rivers to northern Georgia. Mobile, Alabama, reported 1.42 inches of rain. Over the Rockies and the Plains, high pressures maintained fair skies. Wednesday, a Low brought rain and snow to the West. The Nation's midsection enjoyed a fair Canadian High. A rainy Low passed through the Carolinas into the Atlantic. Thursday, a large complex storm covered the West. Winds gusted to 45 m.p.h. over the western Great Plains. Ogden, Utah, accumulated 13 inches of snow. Friday, a storm gave Flagstaff, Arizona, 12 inches of new snow. A cold front scattered showers and thunderstorms over the northern Plains and the Mississippi Valley. Weather of the week continued on page 196.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Euxoa auxiliaris) - KANSAS - Larvae ranged 0-2 per drill row foot in wheat in Finney County for first report of season. (Bell).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Light, 0-6 per linear foot on wheat in Curry and Roosevelt Counties. Heavy populations appeared on barley near Cotton City, Hidalgo County, week ending March 16. Built up in few small grain fields in Curry and Roosevelt Counties week ending March 23. (N.M. Coop. Rpt.). TEXAS - Populations very light in most small grain fields in Rolling Plains area. Ranged 5-12 per row foot in Knox, Archer, Haskell, Throckmorton, Wilbarger, and Foard Counties. Spiders, nabids, and green lacewing larvae important in keeping pest populations in check. (Boring). OKLAHOMA - Very light (4-5 per linear foot) in wheat in Washita and Beckham Counties. (Okla. Coop. Sur.). KANSAS - Wingless forms averaged 0.6 per row foot in field of 6-inch wheat in Cherokee County. None found in two other fields nor in Labette, Montgomery and Finney Counties. (Bell).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - ILLINOIS - Over-wintering survival survey completed. Of 4 main areas surveyed survival low in west district, 52 percent. Average "normal" range is 70-90 percent. Survival in northeast, east, and southwest districts averaged 79, 89, and 82 percent, respectively. (Ill. Ins. Rpt.). MARYLAND - Pupation expected to start within next 21 days; none to date. (U. Md., Ent. Dept.).

SMALL GRAINS

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Activity continued to decrease throughout Rolling Plains area. Populations ranged 1-3 per row foot in Haskell, Throckmorton, Archer, and Foard Counties. Light populations present in most fields in Archer and Young Counties. (Boring).

TURF, PASTURES, RANGELAND

BERMUDAGRASS MITE (Eriophyes cynodoniensis) - FLORIDA - All stages heavy and severely damaged Bermuda grass in isolated spots in Pompano Beach area, Palm Beach County. (Fla. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - TEXAS - Activity increased in Rolling Plains area past 2 weeks. March 9 survey showed Wilbarger, Foard, and Hardeman Counties with 1-10 percent of terminals infested in most fields with 12-20 percent damage in occasional fields. Wilbarger and Foard Counties averaged 30 percent terminal damage with up to 70 percent in some fields March 23. Controls applied. Larvae collected in Harris and Austin Counties March 4-16. Determined by E.E. Latham. Hardeman, Harris, and Austin are new county records. (Boring, Green, Latham). OKLAHOMA - Terminal infestations averaged 12 and 20 percent in 2 fields in Mayes County. Infestation heavy in south-central counties. Moderate (31 larvae per square foot) in McCurtain County. Light (4-5 larvae per square foot), scattered, and spotted in Lincoln, Garfield, Jackson, Muskogee, and Wagoner Counties. Terminal damage ranged

10-40 percent in Washita and Beckham Counties. Adults moderate in Comanche County. (Okla. Coop. Sur.). ARKANSAS - H. postica present in alfalfa in all areas. Larvae first detected March 8 in Miller County, March 22 in Washington County. First adults in east-central area detected March 13, first larvae March 16. Treatments underway in Chicot County. (Boyer). MISSISSIPPI - Vacuum samples indicate 4,360 adults and 47,500 larvae per acre of alfalfa in Bolivar County. Light damage evident. (Schuster). MISSOURI - Larvae ranged 0-5 (average 2.1) per 10 stems and adults 0-6 (average 2.7) per 10 sweeps in southwest area. (Munson). ILLINOIS - Populations in southern area alfalfa slightly lower than expected. Heaviest infested field (Hardin County) showed 20 percent tip feeding and 4 larvae per 100 stems. Alfalfa height ranged 5-8 inches. (Ill. Ins. Rpt.).

INDIANA - Average number of H. postica larvae per 100 stems by county as follows: Daviess 48, Dubois 45, Harrison 15, Washington 9. First-instar larvae still slightly predominant. (Meyer). KENTUCKY - Alfalfa ranged 6-8 inches in height with 45 percent of tips infested in Simpson County. Larvae averaged 1.4 per tip. In Warren County, 35 percent of tips infested with larvae averaging 1.3 per infested tip. (Barnett). TENNESSEE - Larvae continued to damage alfalfa in Knox County field. No damage seen on other fields checked in county. (Bennett). NORTH CAROLINA - Larval threshold levels noted in scattered alfalfa throughout Piedmont area second week of March. Current cold weather caused larvae to retreat to litter, but light mortality expected. Where warranted, controls should be applied about April 1. (Kimbrough).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Populations built up in alfalfa on west side of Salt River Valley, Maricopa County. Ranged 200-500 larvae per 100 sweeps at Dome Valley, Yuma County. (Ariz. Coop. Sur.).

CLOVER LEAF WEEVIL (Hypera punctata) - KANSAS - Larvae averaged 1 per square foot in alfalfa field in Montgomery County, zero and 1.3 per square foot, respectively, in two fields in Elk County. Adults averaged 0.3 per square foot in Elk County field. (Bell). MISSOURI - Very light in southwest area; ranged 0-4 (average less than 1) larvae per square foot. (Munson). ILLINOIS - First and second-instar larvae averaged one per 10 sweeps in 3-inch alfalfa in Adams County. (Ill. Ins. Rpt.). WISCONSIN - Few first-instar larvae observed in alfalfa in Grant County. (Wis. Ins. Sur.).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - WISCONSIN - Few first-instar larvae observed in Grant County alfalfa. (Wis. Ins. Sur.).

CLOVER ROOT CURCULIO (Sitona hispidulus) - KANSAS - Adults active in alfalfa in Elk and Montgomery Counties. (Bell).

PEA APHID (Acyrtosiphon pisum) - OKLAHOMA - Ranged 30-40 per terminal in Beckham County, averaged 10 per terminal in Jackson County. (Okla. Coop. Sur.). TEXAS - Populations ranged 50-200 per square foot in several alfalfa fields in Wilbarger County. (Boring). ARKANSAS - Active in alfalfa in all areas; ranged 700-800 per 100 sweeps March 22. (Boyer).

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) - WASHINGTON - First adults of season trapped March 14 in central and northeast areas. (Halfhill).

ALFALFA CATERPILLAR (Colias eurytheme) - IDAHO - Late-instar larva and chrysalis found in 15-acre alfalfa seed fields at Weiser, Washington County, March 16. (Bolz).

COLE CROPS

BET ARMYWORM (Spodoptera exigua) - NORTH CAROLINA - Collected on cabbage November 4, 1972, near Wagram, Scotland County, by D.L. Stephan and near Weeksville, Pasquotank County, on September 20, 1972, by K.A. Sorensen. Both determined by D.L. Stephan. These are new county records. (Hunt).

DECIDUOUS FRUITS AND NUTS

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - Largest overwintered populations of adults noted since 1965 (no previous records) in Chelan, Douglas, and Okanogan Counties; up to 1,800 per 25 trap sample. (Burts).

FRUITWORMS - OHIO - Adults taken in blacklight trap at Wooster County, March 8-15; Orthosia hibisci 16, Lithophane laticinerea 1, L. unimoda 1. (Rings).

CITRUS

CITRUS RED MITE (Panonychus citri) - ARIZONA - Heavy and rapid buildup in progress on citrus with treatments underway at Yuma Mesa, Yuma County. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Heavy on new flush of growth and in blooms at Yuma Mesa, Yuma County; prebloom treatments underway. Salt River Valley citrus groves should be watched during next few weeks. (Ariz. Coop. Sur.).

SMALL FRUITS

A LEAFHOPPER (Scaphytopius magdalensis) - NORTH CAROLINA - Collected on cultivated blueberries near Charity, Duplin County, on July 27, 1972, by T.N. Hunt. Determined by D.A. Young. Taken on same host August 15, 1972, near White Lake, Balden County. Collected and determined by T.N. Hunt. These are new county records. (Hunt).

ORNAMENTALS

OYSTERSHELL SCALE (Lepidosaphes ulmi) - OREGON - Heavy on Pachysandra sp. in Salem, Marion County, many parasitized. Occurrence on ornamentals, particularly in heavy numbers, uncommon in State. This is first record on this host in State. (Long, Westcott).

AN ARMORED SCALE (Phenacaspis cockerelli) - ALABAMA - Infestations problem on 1,000+ palm plants in containers at nursery in Mobile County. (Lockhart).

CUBAN LAURAL THRIPS (Gynaikothrips ficorum) - NEW MEXICO - Moderate on Ficus nitida at wholesale florist in Albuquerque, Bernalillo County. Collected January 12, 1973, by D.C. Heninger. Determined by K. O'Neill. This is a new State record. (N.M. Coop. Rpt.).

FOREST AND SHADE TREES

EASTERN TENT CATERPILLAR (Malacosoma americanum) - NORTH CAROLINA - First larvae and tents of season observed in Winston-Salem, Forsyth County, March 15 and at Raleigh, Wake County, March 19. Hatch above 2,000 feet usually 2-3 weeks later than in Piedmont. (Bowers, Hunt). MISSISSIPPI - Larvae present throughout State; continued to increase in southern counties. First larvae of season found in Clay, Benton, Grenada, Lafayette, Montgomery, Pontotoc, and Webster Counties feeding on wild hosts; few webs on peach and pear trees around houses. (Robinson). TENNESSEE - Egg hatch occurred with large populations present in central area during week ending March 16. (Jennings). ARKANSAS - Eggs hatched in northern areas week of March 11; second and third-instar larvae observed same period in southern part of State. (Boyer). KANSAS - Most eggs hatched on black cherry in Cherokee County with up to 8 small webs per tree. Little foliage available for food at present. (Bell). OKLAHOMA - Larvae on plum trees as far north as Mayes County by March 18. (Okla. Coop. Sur.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - KENTUCKY - Egg hatch 50 percent in McLean County; should continue next 7 days. (Barnett, Nordin).

FALL CANKERWORM (Alsophila pometaria) - WEST VIRGINIA - Caused about 1,900 acres of moderate to heavy defoliation in Dolly Sods area of Grant County during 1972. Egg sampling survey based on Fall Cankerworm Sequential Plan conducted during February showed about 2,000 acres will be heavily defoliated in 1973. Defoliation predicted to be concentrated in north-south direction along eastern front of Dolly Sods area. (Miller).

SPRING CANKERWORM (Paleacrita vernata) - KANSAS - Females active in Butler County; males in flight past 14 days in Barton County; males still flying to lights in Riley County. (Bell).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - For second consecutive week (March 11-17) no confirmed cases reported in continental U.S. Total of 120 confirmed cases reported from Mexico; more than twice number reported previous period. Number of sterile flies released in U.S. this period totaled 68,456,000, all in Texas. Total of 150,091,500 sterile flies released in Mexico. (Anim. Health).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Ranged 20-30 per head on cattle in Oktibbeha and Monroe Counties due to cool weather. First of season in Grenada and Lafayette Counties, up to 30 per animal seen on pastured beef stock. (Robinson). OKLAHOMA - Ranged 10-20 per animal in Payne County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Averaged less than 2 per head on pastured beef animals in Chickasaw County. First of season in Monroe County ranged 1-2 on 6 of 50 pastured beef cattle. (Robinson).

CATTLE LICE - TEXAS - Haematopinus eurysternus (shortnosed cattle louse) and Linognathus vituli (longnosed cattle louse) heavy on cattle in several Rolling Plains counties during week ending March 16. Light to moderate infestations continued in Wilbarger County. Controls being applied. (Boring). OKLAHOMA - Infestations, mainly H. eurysternus remain scattered and heavy in Mayes County. Heavy in Comanche and Craig Counties, moderate in Lincoln County. (Okla. Coop. Sur.).

GULF COAST TICK (Amblyomma maculatum) - OKLAHOMA - Ranged 3-8 per ear on 3 calves in Chouteau area, Mayes County. Light, 2-5 per head on 3 of 60 cows checked at sales barn in Mayes County. Mostly males with some unengorged females found. (Okla. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Averaged 50 per animal on 2 dogs in Locust Grove area, Mayes County. (Okla. Coop. Sur.).

BROWN RECLUSE SPIDER (Loxosceles reclusa) - OKLAHOMA - Caused much concern in homes in north-central counties. (Okla. Coop. Sur.).

HOUSEHOLDS AND STRUCTURES

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - MARYLAND - Swarms reported throughout State. Season peak expected within 14 days. (U. Md., Ent. Dept.). ALABAMA - Swarming observed in school building in Blount County. First report of season. (Conway).

BENEFICIAL INSECTS

LADY BEETLES - MISSISSIPPI - Vacuum samples indicate heavy populations of Coleomegilla maculata in Bolivar County alfalfa; estimated 27,500 adults per acre. Probably feeding on heavy population of Acyrtosiphon pisum (pea aphid). C. maculata first-generation eggs noted. (Schuster). ARIZONA - Hippodamia convergens (convergent lady beetle) very heavy in plum, apricot, and peach trees at Queen Creek, Maricopa County. (Ariz. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BLACK IMPORTED FIRE ANT (Solenopsis richteri) - ALABAMA - Winged mating forms emerged from about 30 percent of mounds in Clay County area; flights heavy. (Barker).

GRASSHOPPERS - NEVADA - Collected Ageneotettix deorum in Big Creek Canyon at 6,700 feet, Lander County, August 25, 1972; Cratypedes neglectus neglectus taken 16 miles southeast of Yerrington, Lyon County, August 2, 1972; Trachyrhachys kiowa kiowa taken at Red Rock, Washoe County, August 10, 1972; Trimerotropis gracilis gracilis taken in Big Creek Canyon at 6,700 feet, Lander County, August 25, 1972, and in Mineral County September 2, 1972; T. latifasciata taken at Panaca, Lincoln County, August 23, 1972, and at Major's Place, White Pine County, August 24, 1972. All collected by G.M. Nishida. T. latifasciata collected at Diana's Punch Bowl, Nye County, September 7, 1972, by R.C. Bechtel and G.M. Nishida. These are all new county records. (Bechtel).

WOOLLY WHITEFLY (Aleurothrixus floccosus) - CALIFORNIA - Total of 125 infested properties found near Carlsbad, San Diego County. Control operations now in progress. Survey moving into Oceanside area. (Cal. Coop. Rpt.).

DETECTION

New State Records - CUBAN LAURAL THRIPS (Gynaikothrips ficorum) - NEW MEXICO - Bernalillo County (p. 183). SOFT SCALES - HAWAII - Saissetia neglecta on Oahu and Hawaii Islands, S. oleae on Hawaii Island (p. 187).

New County Records - BEET ARMYWORM (Spodoptera exigua) NORTH CAROLINA - Scotland, Pasquotank (p. 183). GRASSHOPPERS - NEVADA - Ageneotettix deorum Lander, Cratypedes n. neglectus Lyon; Trachyrhachys k. kiowa Washoe; Trimerotropis g. gracilis Lander and Mineral; T. latifasciata Lincoln, White Pine, and Nye (p. 185). A LEAFHOPPER (Scaphytopius magdalensis) NORTH CAROLINA - Duplin, Baldin (p. 183).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 3/16-22, BL, BLACK CUTWORM (Agrotis epsilon) 2, GRANULATE CUTWORM (Feltia subterranea) 9, YELLOW-STRIPED ARMYWORM (Spodoptera ornithogalli) 1. KENTUCKY - Lexington, 3/16-23, BL, VARIEGATED CUTWORM (Peridroma saucia) 1, yellowstriped armyworm 1. TEXAS - Waco, 3/9-15, ARMYWORM (Pseudaletia unipuncta) 38, BEET ARMYWORM (Spodoptera exigua) 1, black cutworm 1, BOLLWORM (Heliothis zea) 5, granulate cutworm 9, variegated cutworm 48, yellowstriped armyworm 29; 3/16-21, BL, armyworm 25, black cutworm 2, granulate cutworm 1, variegated cutworm 80, yellowstriped armyworm 7.

HAWAII INSECT REPORT

New State Records - BLACK SCALES (*Saissetia* spp.) - In a 1971 paper, G. DeLotto (Bull. Entomol. Res. 61(2):325-326) pointed out that the "black scale" of North and Central America is a complex of three species - *S. miranda* (Cockerell and Parrott), *S. neglecta* DeLotto, and *S. oleae* (Olivier). These three species all possess the characteristic raised dorsal "H" mark formerly thought to be diagnostic of *S. oleae* (black scale). Re-examination of slide-mounted specimens of Hawaiian *S. oleae* material by J.W. Beardsley, using DeLotto's paper, revealed *S. miranda* and *S. neglecta*, as well as *S. oleae*, occur in the State. Based on specimens examined by J.W. Beardsley and S. Nakahara, distribution and host records for these species in Hawaii are as follows:

S. miranda - Oahu and Molokai Islands on *Erythrina* sp., *E. sandwicensis*, *Agave sisalana*, *Amaranthus spinosus*, *Crotalaria* sp., *Dianthus caryophyllus*, *Diospyros ferrea*, *Nerium* sp., and *Schinus terebinthifolius*.

S. neglecta - Oahu and Hawaii Islands on *Stephanotis floribunda*, "orchid," and "tree fern."

S. oleae - Hawaii Island on *Vaccinium* sp. and *Dodonaea* sp.

S. miranda and *S. neglecta* are new State records. (Beardsley).

Fruits and Nuts - GREEN PEACH APHID (*Myzus persicae*) heavy on several virus-infected papaya trees at Pahala, Hawaii. Infected trees being destroyed to prevent spread of disease. (Yoshioka). FULLER ROSE BEETLE (*Pantomorus cervinus*) caused heavy foliar damage to 25+ backyard citrus trees at Olinda, Maui. (Miyahira).

Man and Animals - Mosquito collections during February from 58 light traps on Oahu totaled 214 *Aedes vexans nocturnus* and 7,094 *Culex pipiens quinquefasciatus*. *Aedes* catches ranged 0-105 at Sunset Beach, *Culex* catches ranged 0-4,872 at Waipahu. (Mosq. Control Br., State Dept. Health).

Beneficial Insects - LANTANA DEFOLIATOR CATERPILLAR (*Hypena strigata*) moderate to heavy on 1,000+ acres of lantana at Hana and Ulupalakua, Maui. Defoliation ranged up to 50 percent at Hana. LANTANA HISPID (*Uroplata girardi*) moderate in same host situation at both areas. (Miyahira). Field examination of Malastoma malabathricum at various locales on Hawaii showed 36 and 61 percent infestation of terminals and fruits, respectively, by MELASTOMA BORER (*Selca brunella*). (Yoshioka).

Miscellaneous Pests - Due to abnormally dry conditions during February no GIANT AFRICAN SNAIL (*Achatina fulica*) activity observed in infested areas on Hawaii and Kauai. Preparations progressing for air drop of bait at Poipu, Kauai. (Yoshioka, Sugawa).

SUMMARY OF INSECT CONDITIONS IN THE UNITED STATES - 1972
(Continued from page 177)

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

Due to 3 years of negative surveys regulations for BROWNTAIL MOTH (Nygmia phaeorrhaea) will be amended to remove New Hampshire from the list of States quarantined for this pest.

BURROWING NEMATODE (Radopholus similis) detection surveys conducted on 12,129 acres in FLORIDA, mainly at the request of grove owners, revealed initial infestations on 246 acres. A total of 109,883 root samples were processed at the laboratory at Winter Haven. State personnel pushed and treated 383 acres of citrus, and established 32,463 linear feet of barriers.

CEREAL LEAF BEETLE (Oulema melanopus) was found for the first time in MISSOURI and TENNESSEE during May. During spring surveys ending June 30, this leaf beetle had been detected in 7 Tennessee Counties and in 3 Missouri Counties. These counties border infestations in Kentucky and Illinois. The find in St. Charles County, Missouri, is the first known infestation west of the Mississippi River. Cereal leaf beetle is generally but lightly distributed in all but 14 of the 102 counts in ILLINOIS. Minor extensions of infested areas were detected in INDIANA, KENTUCKY, MARYLAND, MICHIGAN (one county in the Upper Peninsula), NEW YORK, TENNESSEE, VIRGINIA, and WEST VIRGINIA.

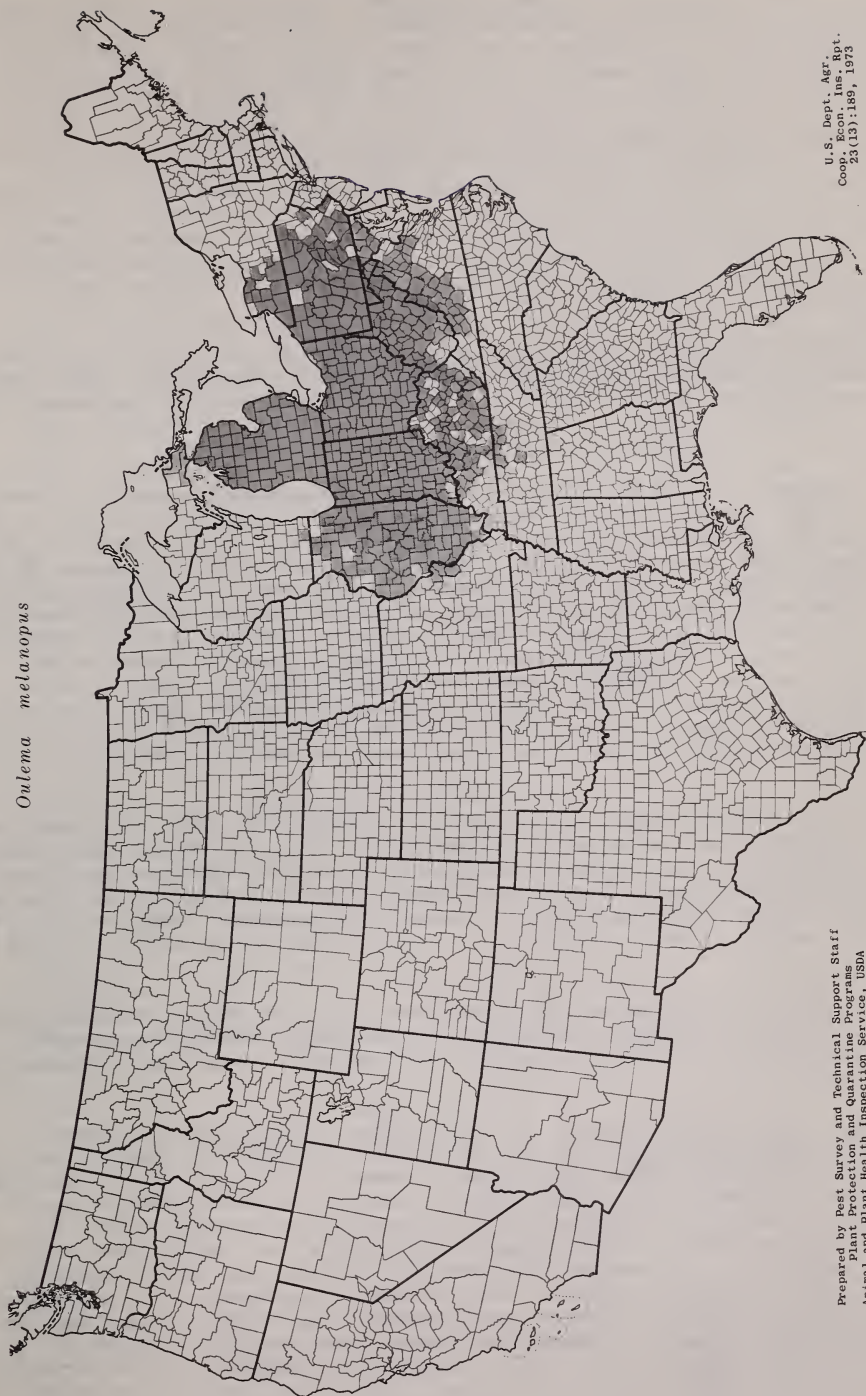
Release of parasites to suppress cereal leaf beetle populations continued during the year. In an attempt to increase parasite production, 13 new field insectaries were established and seeded with larval parasites of this leaf beetle. This brought the total to 17. Attempts to produce large numbers of these parasites in the laboratory were unsuccessful. Of five species of parasites released in recent years four are now established. These include a MYMARID WASP (Anaphes flavipes), an egg parasite of cereal leaf beetle, and 3 larval parasites--a EULOPHID WASP (Tetrastichus julis) and 2 ICHNEUMONID WASPS (Diaparsis carinifer and Lemophagus curtus). In 1972, A. flavipes was released at 112 sites in 52 counties over an 8-State area. In this same general area, the larval parasites were released as follows: T. julis at 62 sites in 43 counties, D. carinifer at 12 sites in 12 counties, and L. curtus at 4 sites in 3 counties.

Eradication treatments against CITRUS BLACKFLY (Aleurocanthus woglumi) have been underway in the lower Rio Grand Valley area of TEXAS and in Tamaulipas, Mexico, since April 1971. In September 1972, infestations were found near Los Fresnos in Cameron County, Texas, and in October throughout the city of Mission in Hidalgo County. Trees on infested and adjacent properties were treated.

An intensive biometric survey was initiated in southern Texas and border areas of Mexico in November to detect any new citrus blackfly infestations that may have existed. A new infestation was found November 30 on one leaf of a sour lime tree in a dooryard planting at San Benito in Cameron County, Texas. A second tree, with 80 infested leaves, was found in San Benito December 8, about 0.8 mile southeast of the original infestation. All life stages were present. Control measures were immediately initiated on the 9 city blocks surrounding each find. Infestations were detected in Harlingen, Cameron County, Texas, and in Rio Bravo, Tamaulipas, Mexico. Delimiting surveys are still in progress.

Distribution of Cereal Leaf Beetle

Oulema melanopus



U. S. Dept. Agr.
Coop. Econ. Ins. Bpt.
23 (13):189, 1973

Prepared by Pest Survey and Technical Support Staff
Plant Protection and Quarantine, ARS, USDA
Animal and Plant Health Inspection Service, USDA
December 31, 1972

EUROPEAN CRANE FLY (Tipula paludosa) continued to infest some pasture and lawn areas near Blaine in Whatcom County, WASHINGTON, during 1972. An adult male taken at a golf course near Renton, King County, September 7 was a new county record and constitutes the southernmost collection of this pest in the State.

GIANT AFRICAN SNAIL (Achatina fulica) infestations were detected at two locations in the greater Miami area of Dade County, FLORIDA, as a result of an intensive survey and publicity program. Surveys have been negative in 4 of the 8 areas found infested in the Miami area since the beginning of the program in September 1969. Surveys have been negative for 16 months at the site of the original infestation. The number of properties being treated has decreased from 759 to 81.

GOLDEN NEMATODE (Heterodera rostochiensis) was found in 22 potato fields totaling 935 acres on Long Island, NEW YORK. Soil fumigant was applied to 932 acres at the rate of 20 gallons per acre. Post-fumigation sampling revealed viable cysts in 11 fields. Portions of 10 of these fields were retreated.

Damage by GRASS BUGS of native and introduced grasses in UTAH ranged from occasional feeding spots to complete destruction of leaves. Infestations were variable on most range areas from 4,000 to 10,000 feet elevation, although no damage was reported in a few northern areas of the State. Labops spp. and Irbisia spp. damaged several thousand acres of planted grass ranges over much of Utah. Labops hirtus caused extensive damage to wet meadow grass and sedges. Stenodema spp. and Leptopterna spp. caused much spotting of planted grasses and small grains in agricultural Valley areas of Utah. Irbisia brachycera caused heavy damage to a large acreage of crested wheatgrass in White Pine County, NEVADA, and severely damaged bluegrass lawns in southern Washoe County in May.

Adult GRASSHOPPER surveys made in the fall of 1971 indicated heavy infestations could occur in 1972. The infested rangeland areas totaled approximately 11 million acres in 15 Western and Mid-western States where economic populations of 8 or more grasshoppers per square yard were found. Delimiting surveys conducted in the spring of 1972 revealed that extensive acreages could require control.

A total of approximately 2,205,000 acres of rangeland was treated in 7 Western States in calendar year 1972. IDAHO and OREGON accounted for approximately 2 million acres. Control was generally good.

Melanoplus sanguinipes, M. bivittatus, Oedaleonotus enigma, Camnula pellucida, and several other species were severe pests of gardens during the late spring, summer, and early fall throughout central and eastern WASHINGTON. Surveys showed 1,044,780 acres of rangeland heavily infested throughout 16 central and eastern counties. Due to heavy populations and a very mild fall in 1972, populations may reach high levels in 1973. Egg hatch began in eastern OREGON in mid-May and economic populations were present in parts of Grant, Baker, and Malheur Counties by late May. By mid-June economic numbers had been found on 2.7 million acres. The fall adult survey revealed economic populations on more than 2 million acres.

Populations were generally below economic levels in NEVADA except in areas of Elko, Eureka, Humboldt, Lander, and Washoe Counties. In these areas populations were comprised mostly of Melanoplus bivittatus and M. sanguinipes on cropland and Aulocara elliotti, Oedaleonotus enigma, and M. sanguinipes on rangeland. Infestations were up sharply from 1970 and 1971 levels. Cropland infestations averaged up to 70 grasshoppers per square yard. Chemical controls were applied to 61,705 acres of cropland and 16,600 acres of rangeland. The 1972 adult grasshopper survey indicated potential infestations on 8,300 acres of rangeland and 750 acres of cropland. First hatch was observed in Adams County, IDAHO, on April 30. Cool, dry, spring weather throughout the State set back general egg hatch and reduced host plant growth but by the end of June populations ranging up to 200 per square yard developed. Over 1,200,000 acres were treated this year. The 1972 fall surveys indicate that over 2 million acres will require control treatments in 1973. The infested areas extend throughout the Snake River plains.

Populations and damage were below average in UTAH with only spotty range injury in several counties. Fall adult surveys indicated 213,760 acres of rangeland economically infested in WYOMING.

Egg hatch started in mid-May in most areas of NORTH DAKOTA, about 14 days later than in 1971. First damage occurred to sunflowers, sugar beets, and small grains during late May in Pembina County. Heavy infestations occurred in untilled stubble fields in Bottineau and McHenry Counties with up to 50 grasshoppers per square yard. Economic populations developed on about 139,000 acres of cropland in parts of Williams, McHenry, Morton, Grant, Emmons, Cass, Richland, and Ransom Counties. About 16,000 acres of rangeland had economic infestations in Richland and Ransom Counties. The dominant cropland species were Melanoplus bivittatus, M. sanguinipes, and M. femurrubrum, and the principal rangeland species was M. sanguinipes. Infestations are expected to increase again over much of the State next season. Grasshoppers were non-economic in most parts of NEBRASKA, but some locally intense concentrations were observed. Nymphs ranged up to 25 per square yard in field margins and roadside ditches in eastern counties in June and July. By August 3 from 40 to 50 grasshoppers per square yard were observed on alfalfa in several central counties, but lush growth stimulated by above average rainfall, held them in ditches and waste areas surrounding most fields. Some damage to field margins of row crops was reported in Dodge, Burt, and Thurston Counties by August 29. Statewide annual fall grasshopper surveys indicated infestations were heaviest along the North Platt River Valley from Hershey, Keith County, west to Oshkosh, Garden County, and in southern Dundy County. No widespread problems are anticipated in 1973.

Grasshoppers caused economic damage on 200,000 acres of rangeland in southern Meade and southeast Seward Counties, KANSAS, during late June. Agenotettix deorum, Aulocara elliotti, Phlibostroma quadrimaculatum, and Dissosteira longipennis were the dominant species. Localized economic infestations involving 150,000 acres were found in Commanche, Barber, Kiowa, and Edwards Counties. Egg hatch began in the south-central and southwest areas of OKLAHOMA in mid-March and in the Panhandle in mid-April. Heavy numbers were present in most areas by mid-May. Fall surveys showed 1,485,000 acres of rangeland in 31 counties were economically infested. Dominant species were Drepanopterna femoratum, Ageneotettix deorum, Aulocara elliotti, and Melanoplus occidentalis.

An expanded GYPSY MOTH (Porthetria dispar) detection survey was used in noninfested areas. Disparlure baited traps were placed in biometrically designed grid arrays in 17 States. This was supplemented by selected trapping at suspect introduction sites in 34 States. About 120,000 traps were involved in this effort. Male moths were caught for the first time in 55 counties in NEW YORK, PENNSYLVANIA, VIRGINIA, WEST VIRGINIA, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, OHIO, MICHIGAN, and IOWA. Established infestations were found in Isabella County, MICHIGAN, and Lorain County, OHIO.

Treatments for IMPORTED FIRE ANT (Solenopsis spp.) were continued in those areas where these pests are troublesome and where there is State and/or local financial interest in a cooperative control program. During calendar year 1972, 18,688,000 acres were treated in 8 of the 9 infested States.

Six new counties came under the JAPANESE BEETLE (Popillia japonica) regulated area in ALABAMA, one county and the City of St. Louis in MISSOURI, and 6 counties in GEORGIA.

A single gravid female MEXICAN FRUIT FLY (Anastrepha ludens) was trapped in Sarasota County, FLORIDA, February 23, 1972, and an intensified trapping program was placed into effect immediately. Trapping continued long enough to span 3 life cycles but no additional specimens were collected.

Since October 10, six native females and 3 native males have been trapped in southwest CALIFORNIA in 5 different areas between National City and La Jolla. Fifty additional traps were set around each of the areas where native flies had been trapped. One female and one male were trapped in San Diego November 27. Fruit cutting was conducted through the area, but no larvae were detected. To protect California from infestation, approximately 700,000 sterile flies per week are released between May and November each year in the Tijuana, Baja California, MEXICO, area to mate with any native Mexican fruit flies that cross the regulatory barriers. In TEXAS, Jim Hogg and Zapata Counties were added to the regulated areas.

A single male ORIENTAL FRUIT FLY (Dacus dorsalis) was taken in a trap in Tustin, Orange County, CALIFORNIA, October 10, 1972. The fly was estimated to be 3 to 7 days old. The last oriental fruit fly found in California was trapped in Santa Barbara June 1, 1972. An attractant and insecticidal baiting program was conducted at Santa Barbara, California, during the period July 10 to August 8, following the trapping of a single male fly June 1. The area covered by this program was 9 square miles. Four applications of bait were applied at weekly intervals. With the initial catch site as the center, 340 traps were placed in an 81-square mile trapping area. The traps were placed 2 weeks before the baiting began and were operated for 3 months. Other than the original catch, no additional flies were found.

Large-scale testing of the sterile moth technique for eradication or control of PINK BOLLWORM (Pectinophora gossypiella) in the San Joaquin Valley of CALIFORNIA continued promising. In June 1972, about 44,000 traps was placed in the cotton-growing area at the rate of one trap per 20 acres of cotton. As of November 10, 1972, when the sterile releases were completed, 31 native moths had been trapped in Kern County and 5 in Tulare County. Limited

boll examinations were made at 3 of the most highly suspect sites. No larvae were found. The numbers of moths and locations exceeded previous seasonal totals. This was expected with the increased trap density and uniformity of placement throughout the valley. Sterile Moth production was increased to 1,250,000 moths per day. This resulted in the release of about 100 million sterile moths in the San Joaquin Valley in 1972.

The sterile insect technique was substituted for the destruction of wild cotton in FLORIDA to prevent spread of pink bollworm to the Southeastern States. Releases of sterile moths began November 13 in Everglades National Park and the Florida Keys. A total of 2,400,000 moths were dropped each week. A trapping survey has been initiated in the wild cotton areas to monitor the effectiveness of the program.

RANGE CATERPILLAR (*Hemileuca oliviae*) infested about one million acres of rangeland in Union, Harding, Colfax, Chaves, and Lincoln Counties, NEW MEXICO.

During 1972, only 51 new properties were found to be infested with SOYBEAN CYST NEMATODE (*Heterodera glycines*); however, one of these properties was a new State record for ALABAMA.

WEST INDIAN SUGARCANE ROOT BORER (*Diaprepes abbreviatus*) larval damage to citrus trees in the Apopka area of Orange County, FLORIDA, was on the decline during 1972. Only 20 trees required removal. This compares with about 1,600 trees which showed serious decline symptoms or mortality during the first three years of the program. However, there was some spread of the infestation. In the Apopka area, 49 properties, totaling 404 acres were found infested for the first time during the period January 1 through October 25. Also, three dooryard properties were found infested. Of the properties found infested, 5 totaling 61 acres were outside of the regulated area.

There are now 14,600 acres within the regulated area of which 6,196 acres are in citrus production. Adult West Indian sugarcane root borers have been detected in 238 groves comprising 2,146 acres since the beginning of the program. Surveys in 1972 were conducted within and outside the regulated area on a total of 18,614 acres. Adults were found on 1,466 acres.

Adults were found on nine species of plants during the September survey conducted on alternate hosts. These were hackberry, laurel oak, live oak, pignut hickory, Hercules club, winged sumac, blackberry, gallberry, and wax myrtle. These plants ranged up to 0.3 mile from infested citrus groves. There is no way to check the tops of some of the taller trees such as oak and hackberry. It is felt that since the adults prefer to feed in the tops of citrus trees, this may also be true with other hosts.

WHITEFRINGED BEETLE (*Graphognathus* spp.) infestations have now been recorded in all 67 counties in ALABAMA. Estimated damage by these pests in 1972 to selected crops are as follows: Cotton \$100,000, peanuts \$300,000, corn \$352,000, soybeans \$180,000, home and commercial vegetables \$210,000. Cost of insecticides and application is estimated at \$280,000 or a total loss estimated at \$1,422,000 for 1972. First damage of the year was reported in a large greenhouse in Houston County February 4 where larvae damaged

root systems of tomato plants. Whitefringed beetles were collected for first time in Pierce County, GEORGIA; McCracken County, KENTUCKY; Vernon, Winn, Red River, and Natchitoches Parishes, LOUISIANA; Barnwell County, SOUTH CAROLINA; and Hardin County, TEXAS during 1972.

The following quarantines were revoked during the past year: KHAPRA BEETLE (Trogoderma granarium) July 2; EUROPEAN CHAFER (Amphimallon majalis) July 30; SOYBEAN CYST NEMATODE (Heterodera glycines) September 30, and EUROPEAN CRANEFLY (Tipula paludosa) December 7, 1972.

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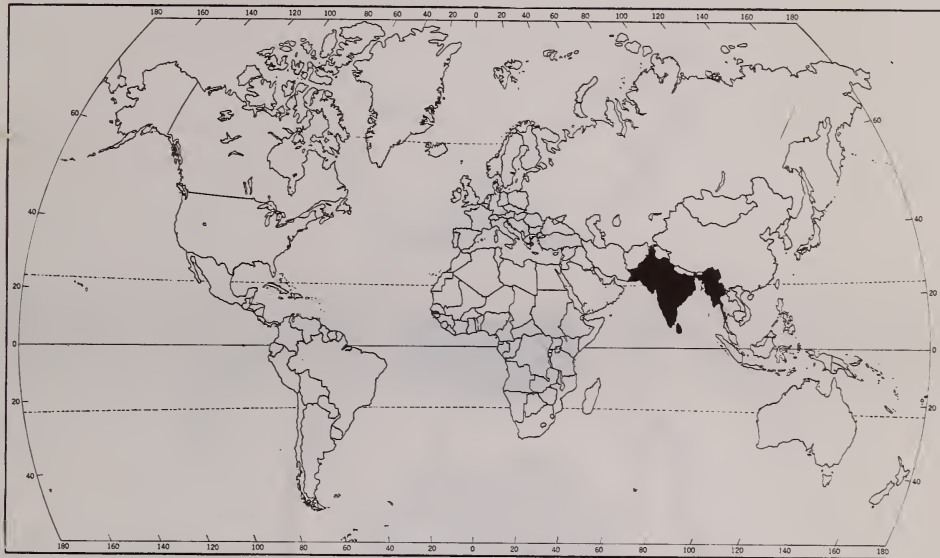
Pushing into the warm moist air over the southern Plains, it unleashed heavy rains and tornadoes. Golf-ball sized hail struck Galveston, Texas, which also received nearly 2.50 inches of rain in an hour and 3 inches in 24 hours. The upper Coastal Plain of Texas received rainfall ranging from 1.25 to 3.25 inches. Saturday, tornadoes struck northwest and southeast Texas. Northward, Dodge City, Kansas received 2.05 inches of rain. A contrast to the springlike weather graced the Nation's eastern and western thirds. Sunday, torrential rains spread from Texas into the Deep South. Excessive rainfall aggravated the existing flood conditions there. Mobile, Alabama, reported 2.53 inches rain. A storm moved into the middle Mississippi River Valley where it weakened and calmed somewhat.

TEMPERATURE: Warmer temperatures than average prevailed over the Midwest and central United States last week while in the northern Great Plains, temperatures averaged as much as 15 degrees above normal. Most of the east-coast temperatures averaged lower than the seasonal normal with daily highs in the 40's and 50's. The west coast also stayed on the cooler side with daily highs mainly in the 40's and 50's. A mild Monday started the week. Temperatures remained below freezing at midday in only a few areas and shot into the 70's along the gulf coast. Tuesday morning, temperatures dropped below freezing over much of the northern Midwest, the Plains, and the Mountain States. However, a cold front extending out of the Low in Nevada made it a colder day than Monday in much of the Nation's center. Wednesday morning saw the mercury dip below 32 degrees across the northern half of the Nation from southern Pennsylvania through the Corn Belt and Plains into Nevada and eastern California and Oregon. The northeast stayed fairly cold throughout the day. The national low at Bradford, Pennsylvania, was 10 degrees while it averaged warmer in the West. Thursday morning much of the western Corn Belt parts of the Plains saw their last freezing temperatures for the week. Friday through Sunday, many locations recorded daily lows in the mid and high 30's and low 40's. Winter reigned in New England and Upstate New York. Temperatures there generally fell below freezing every night through Sunday. The mid-Atlantic region had lows in the 30's and 40's and highs in the 50's and 60's. Late in the week, temperatures in the western Plains and Rockies dropped to the 20's and 30's and peaked in the 40's and 50's.

RED PUMPKIN BUG (Coridius janus (Fabricius))

Economic Importance - This pentatomid has caused severe damage to pumpkins in India, pumpkins and gourds in Burma, and is a major pest of several cucurbits in West Pakistan. It also attacks eggplant, melon, and beans. The nymphs and adults are gregarious and often become so numerous as to almost cover the host plant. A heavily infested plant wilts and may die due to the large amount of sap sucked from the stem and leafstalks by both nymphs and adults.

Distribution - Burma, India, Ceylon, and West Pakistan.

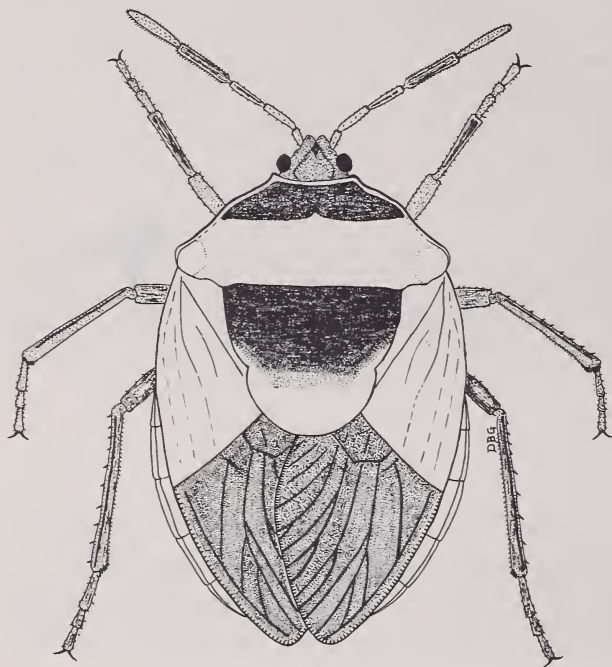


General Distribution of Red Pumpkin Bug

Hosts - Principally a pest of cucurbits including pumpkin, gourd, melon, and cucumber. It has also been recorded on eggplant and beans.

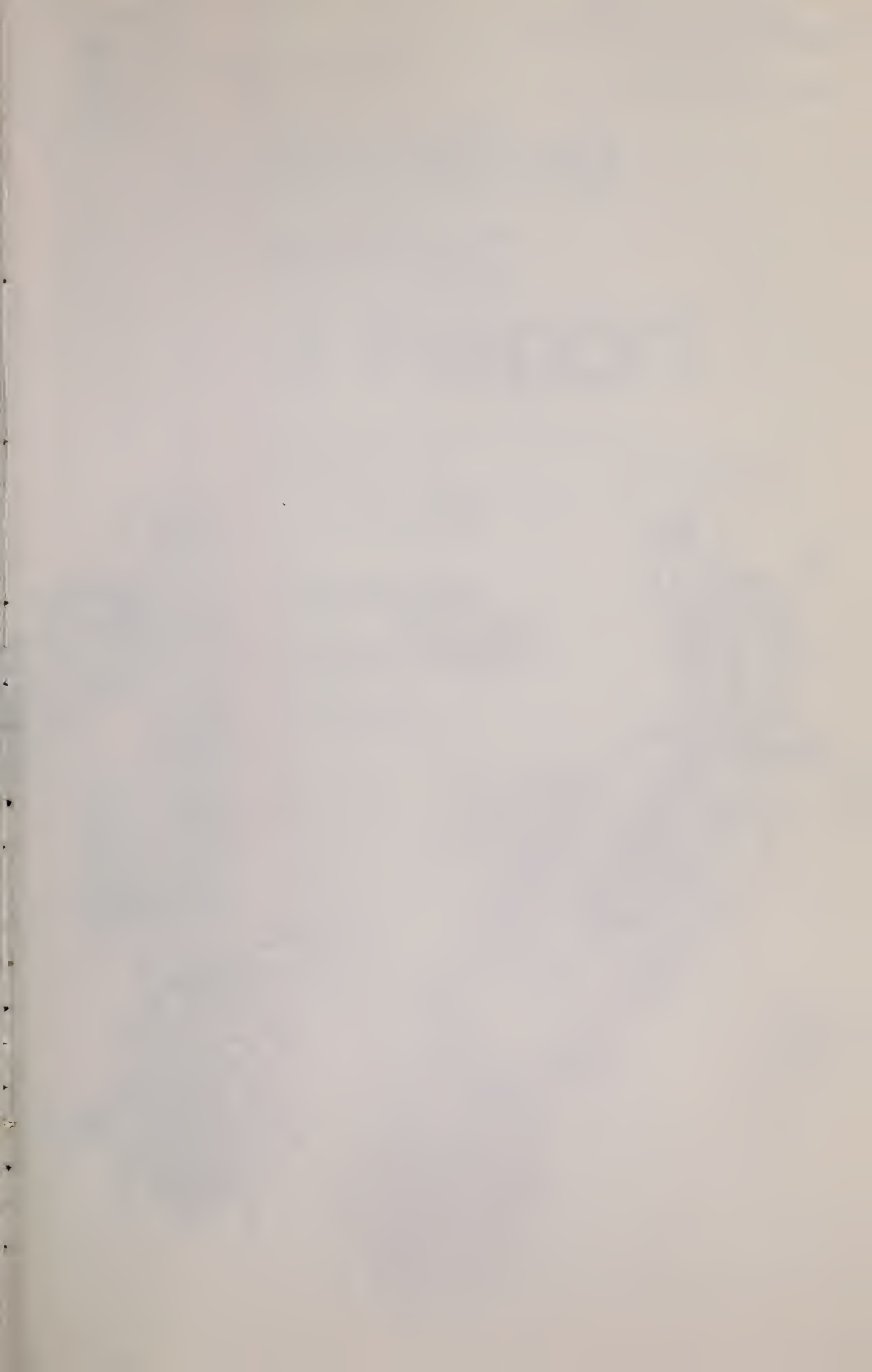
Life History and Habits - These bugs overwinter as adults, emerging around mid-May. Mating takes place only once a year, this occurring during the rainy season, July to September. Oviposition begins 3-4 days after mating, with each female capable of producing up to 100 eggs. The eggs are laid in strings of 18-20 on the ventral surface of the leaves of the host plant. The ventral side of the leaves are rough and hairy which probably aids in keeping the eggs from falling to the ground. The average incubation period is 5-6 days. There are 5 nymphal instars which require a total of 23-29 days to mature. The adults do not fly extensively and congregate on the host with the nymphs. Both stages suck the sap from the plant causing it to wilt and die.

Description - The eggs are barrel-shaped, 1.78 mm long, with fine, spiny, surface projections. First instar nymphs are almost oval, 1.8-2.0 mm in length and deep red in color. There is an increase in size with each molt, the fifth instar nymph reaching 11.5-15 mm. The adults average 20.0-22.2 mm in length, the females being slightly larger. The thorax and abdomen are orange-red with the eyes and head black. The basal portions of the hemelytra are yellow and the membranes black. The head is broader than long and the antennae are 5 segmented. The pronotum has a transverse black band near the anterior margin. (Prepared in Pest Survey and Technical Support in cooperation with other agencies). CEIR 23(13):197-198, 1973.



Adult of Coridius janus

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