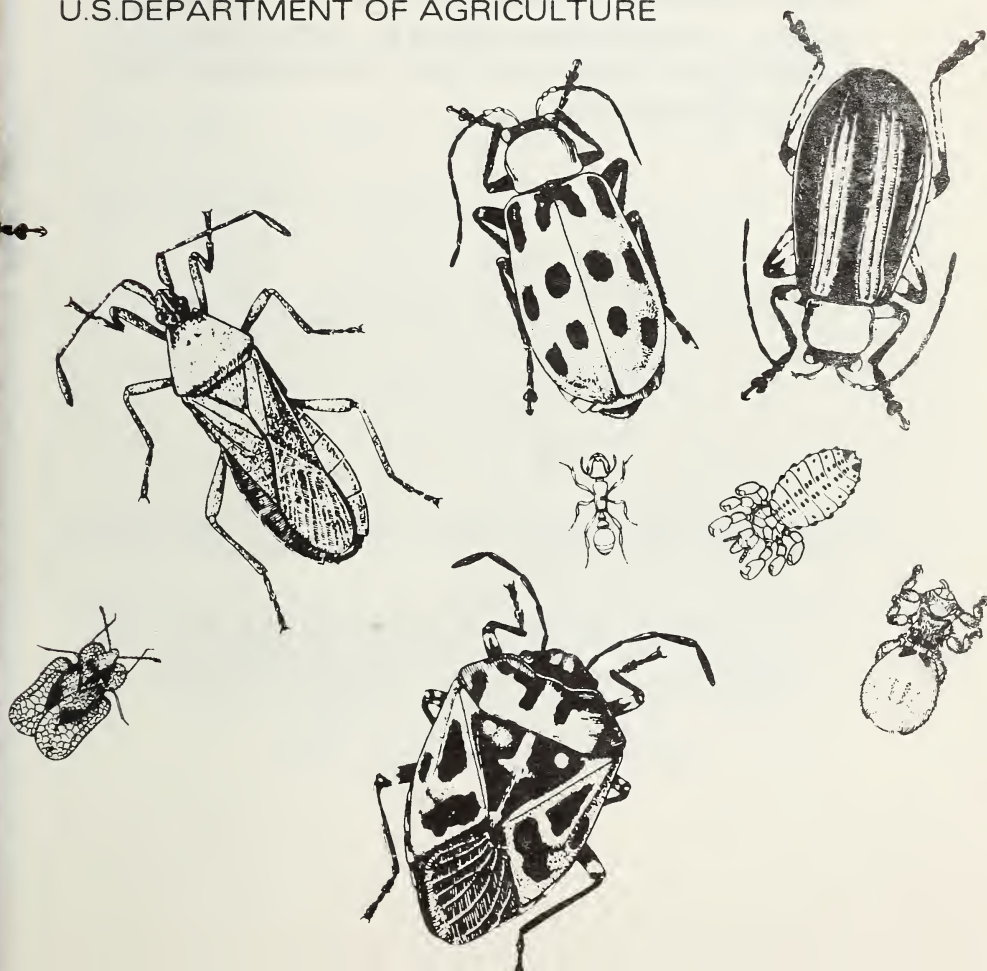


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

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
NEW PEST DETECTION AND SURVEY 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 clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release, including the mailing list, should be sent to:

CEIR

New Pest Detection and Survey Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG very severe on some small grains in Texas, Oklahoma, and Kansas. (pp. 895-896).

Detection

Earlier collection of a SIRICID WASP in Georgia predates find in Alabama. (p. 899).

New State Records include a SIRICID WASP (p. 899) and an ANT (p. 908) in Florida.

For new county records, see page 902.

Special Reports

Dryocosmus kuriphilus Yasumatsu, (Hymenoptera: Cynipidae), An Oriental Chestnut Gall Wasp in North America. (pp. 903-905).

First Report of Pheidole moerens in Florida (Hymenoptera: Formicidae). (p. 906).

The Use of Bait Traps for Assessment of Stored Product Insect Populations. (pp. 907-909).

The Author of the Scientific Name of the Cabbage Maggot. (p. 910).

Spider Mites (Tetranychidae: Acarina) from Southeast Asia and Japan. (pp. 911-921).

Imported Fire Ant Quarantines. Map. Centerfold.

Reports in this issue are for the weeks ending November 21 through December 19 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.....	895
Insects Affecting	
Corn, Sorghum, Sugarcane.....	896
Small Grains.....	896
Forage Legumes.....	897
Soybeans.....	897
Deciduous Fruits and Nuts.....	898
Small Fruits.....	898
Ornamentals.....	898
Forest and Shade Trees.....	898
Man and Animals.....	899
Households and Structures.....	900
Federal and State Plant Protection Programs.....	900
Hawaii Insect Report.....	900
Light Trap Collections.....	901
Detection.....	902
Corrections.....	902
<u>Dryocosmus kuriphilus</u> Yasumatsu, (Hymenoptera: Cynipidae), An Oriental Chestnut Gall Wasp in North America.....	903
First Report of <u>Pheidole moerens</u> in Florida (Hymenoptera: Formicidae).....	906
The Use of Bait Traps for Assessment of Stored Product Insect Populations.....	907
The Author of the Scientific Name of the Cabbage Maggot.....	910
Spider Mites (Tetranychidae: Acarina) from Southeast Asia and Japan.....	911
Imported Fire Ant Quarantines. Map. Centerfold.	

WEATHER OF THE WEEK ENDING DECEMBER 14

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

HIGHLIGHTS: A series of disturbances moving across the Nation triggered a variety of precipitation during the week. A winter storm that developed in the western United States spread snow from the Pacific Northwest into the high central Plains. Unseasonably warm weather and thunderstorms, at times severe, dominated the middle Mississippi and Ohio Valleys. Monday turned out to be a typical December day in the midwest as a frontal system spread snow across parts of Iowa, Illinois, Wisconsin, and northern Missouri. Soon, light snow blanketed these areas and, by evening, spread into parts of Indiana and Michigan.

TEMPERATURE AND PRECIPITATION: A low pressure center formed on the front. In the Southeast, precipitation in a variety of forms encompassed an area from the Carolinas and Georgia into the gulf along the coast into Maryland and Delaware. Limited precipitation during the day included showers and a few thundershowers in parts of Florida and light rain and drizzle from the middle Atlantic States northward through New Jersey. Near normal temperatures in most of the Nation leveled off in the 20's and 30's in the North and in the 60's and 70's South with a few readings in the teens in northern Minnesota and some 80's in extreme southern California. Most of the Nation's wet weather stayed east of the Mississippi River on Tuesday, held in place by a low pressure center over southeast Ohio and accompanying frontal systems. Despite steady snowfall from Wisconsin and Michigan into the lower Great Lakes and Ohio Valley,

Weather of the week continued on page 922.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - TEXAS - Fed on corn tassels and on table beets in Lower Rio Grande Valley in south-central area week ending November 21. (Cole, Norman).

BEET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Treatment of infested roadside weed hosts continued week ending November 21. Treatments completed in Fresno County. Total of 1,368 acres treated in Kern County. Additional treatment applied in Gorman area on U.S. forestry land, Interstate 5 Highway interchanges, and frontage roads. Treatments to continue in Kern County as long as beet leafhoppers stay on drying thistle. (Cal. Coop. Rpt.).

CORN EARWORM (*Heliothis zea*) - TEXAS - Fed on corn tassels in south-central area week ending November 21. (Cole).

GREENBUG (*Schizaphis graminum*) - NEW MEXICO - Ranged 0-3 per linear foot in Lea County wheat week ending November 21. Up to 3 per linear foot near Portales, Roosevelt County, week ending November 28. (N.M. Coop. Rpt.).

TEXAS - Greenbug 1-25 per foot of drill row on small grains in Foard, Motley, and Wichita Counties week ending November 21. Moderate to heavy in some fields scattered in Knox County. Heavy in some fields, damage excessive, some treatments applied. One to 200 per linear foot damaged Lipscomb County wheat. Increased in Collin and Denton Counties. Temperature drop which slows beneficial insect activity expected to continue. Activity increased in Hill, Bosque, and Erath Counties due to light beneficial insect populations. Greenbug heavy, 300-600 per foot of row, in scattered fields of small grains in Baylor, Jones, Knox, and Wilbarger Counties week ending December 12. Moderate, 75-200 per foot of row, in Young County. Lighter, 1-74 per foot of row, in Archer, Dickens, Fisher, Hardeman, and Motley Counties. Up to 200 per linear foot in Lipscomb, Hemphill, and Ochiltree Counties on 3 to 6-inch wheat and 0-25 per linear foot on seedling wheat in Moore County. Increased in north-central area on wheat in Hale County. Noted in McCulloch County. (Boring et al.).

OKLAHOMA - Greenbug 18-230 per linear foot of wheat in southern Alfalfa County week ending November 21. Still heavy in some areas of Kay and Grant Counties; many fields treated. Light to heavy in Noble County; light in Payne County. Counts per linear foot by county: Garfield 2-145; Roger Mills and Caddo 20-1,000; McClain up to 1,000; Kingfisher up to 150 on young wheat and up to 300 in older fields; Canadian 25-300; Oklahoma up to 300; Kiowa up to 50 in isolated fields; and Jefferson up to 200. Ranged 5-200 per linear foot of wheat in Tillman and Jackson Counties week ending November 28. Still heavy in some areas in west-central, north-central, and central areas. Cold temperatures and snow limited activity. Counts per linear foot of wheat by county week ending December 5: Washita 2,000-3,000; Logan 12-325; Noble 11-125; Cotton 50-300; Harmon 50-75. Heavy in Garvin and McClain Counties, moderate to heavy in Stephens, Canadian, Beckham, and Custer Counties, and light to moderate in Grady County. Moderate on wheat and rye in Hughes County. (Okla. Coop. Sur.).

KANSAS - Greenbug averaged up to 1,000 per drill row foot in 3-inch wheat near Burr Oak, Jewell County, and up to 900 in 6-inch Douglas County wheat week ending November 21. No parasitism in most fields surveyed. Significant parasitism by Lysiphlebus testaceipes (a braconid wasp) in 2 Miami County fields. Cold weather November 19 to December 1 with rains resulted in heavy greenbug mortality in some wheatfields in eastern area. Field of 3-inch wheat near Burr Oak, Jewell County, went from 1,000 per drill row foot on November 18 to 200-300 December 3. Damage severe with many dead plants. Declined from 900 on November 18 to 600 per row foot on 7-inch wheat in Douglas County; but in Shawnee County 6-inch wheat averaged 165 per row foot on November 17 and averaged 230 on December 4. (Bell). ILLINOIS - Light, averaged approximately 10 per foot of row, on 3 to 4-inch winter wheat in Jackson County. (Ill. Ins. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Heavy on young alfalfa in Garvin County. Light to moderate in Grady County. (Okla. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - FLORIDA - Adults collected in blacklight traps at Holt, Okaloosa County, by J.H. Carter July 17, 1975, and at Altha, Calhoun County, by E. Curlee July 18. Determined by D.C. Ferguson. These are new county records. Additional specimens collected at same locations. (Fla. Coop. Sur.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - NEW MEXICO - Ranged from 90-percent infested corn in Lea, Roosevelt, and Curry Counties to 2-3 larvae per stalk in Quay and Union Counties week ending December 5. (N.M. Coop. Rpt.). MISSOURI - Fall survey conducted in 5 southeast area county cornfields week ending November 29. Infested plants ranged 24-69.2, averaged 52.8. Girdled plants ranged 1.2-23.2, averaged 11.2. (Munson). ILLINOIS - Overwintered larvae in 21 of 24 cornfields surveyed in White, Jackson, and Union Counties week ending December 12. Infested up to 20 percent of a field in White and 19 percent of a field in Union. (Ill. Ins. Rpt.).

SMALL GRAINS

AN APHID (Rhopalosiphum padi) - TEXAS - Increased on small grains in Wilbarger County where 1-75 per foot of row observed week ending December 12. Light in Archer, Wichita, and Hale Counties. (Boring, Latham). OKLAHOMA - Counts per linear foot of wheat by county week ending November 21: Cotton, Harmon, Jackson, Greer, and Kiowa 30-60; Beckham, Roger Mills, Caddo, Washita, and McClain 0-100; Grant and Garfield 0-50. Ranged 0-10 per linear foot in wheat in most areas except in west-central counties where scattered heavy infestations found week ending November 28. Counts per linear foot of wheat by county week ending December 5: Noble 8-75, Logan 10-75, Kingfisher 0-55, Tillman 8-10, and Harmon 2-30. Light to heavy in Washita County. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - ALABAMA - Developing populations of this species and other aphids widespread over several thousand acres of Covington County small grain fields week ending November 21. Damage significant; treatments applied in some plantings. (Pike). MARYLAND - Light to moderate on wheat and barley throughout Eastern Shore week ending November 28. Cold stopped increases in all areas. (U. Md., Ent. Dept.).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Ranged 1-15 per foot of drill row of wheat in Foard and Wilbarger Counties week ending November 21. (Boring). TEXAS - Light, 6-70 per foot of drill row on small grains week ending December 12 in Archer, Hardeman, and Wichita Counties. Up to 450 per foot of drill row in Foard and Wilbarger Counties. Building up in north-central area. (Boring, Turney).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - One live adult collected from haystack at Las Cruces, Dona Ana County, by T.D. Schowalter December 12, 1975. Determined by W. Iselin. This is a new county record and first specimen collected in south-central part of State. (N.M. Coop. Rpt.). MISSOURI - Adults 2-21 per 10 sweeps and first and second instar larvae 2-9 week ending November 21. Eggs by county: Barry 77, Cedar 78, Cooper 66.5, Saline 91.5. (Munson). KANSAS - Sixty percent of stems infested with eggs or hatched eggs (20 percent hatch) in sample of 10-inch alfalfa taken in Atchison County on December 4. (Bell). KENTUCKY - Eggs averaged 90 per square foot in Barren County week ending November 21. Eggs averaged 15.6 and 15.1 per square foot in Fayette County alfalfa week ending November 28. (Barnett et al.).

CLOVER LEAF WEEVIL (Hypera punctata) - NEW MEXICO - One adult recovered from haystack at Las Cruces, Dona Ana County, by B. Principe December 12, 1975. Determined by W. Iselin. This is a new county record. (N.M. Coop. Rpt.).

SOYBEANS

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - NORTH CAROLINA - Taken from soybean stems near Lumberton, Robeson County, November 12, 1975, by D. Oxendine. Two stages of insect noted. Population, 50+ per stem, concentrated near base. Determined by D.L. Stephan. This is first report of this species from soybeans in State. (Stephan).

A PLATYSTOMATID FLY (Rivellia quadrifasciata) - LOUISIANA - Adults, more than one per sweep, taken near Bunkie, Avoyelles Parish, during August. Tentatively identified larvae damaged root nodules in soybean field plots in St. Landry Parish. Up to 141 larvae taken in single 3-foot soil sample week ending November 28. (Eastman, Wuensche).

A CERAMBYCID BEETLE (Dectes texanus) - NORTH CAROLINA - Larval activity in Hyde and Washington Counties lodged 5 percent or less of soybeans. Lack of reports indicate lower than normal rate statewide week of December 5. (Hunt).

DECIDUOUS FRUITS AND NUTS

PECAN CARPENTERWORM (Cossula magnifica) - ALABAMA - Larvae active week of December 5 in high percentage of pecan trees in 20-acre Baldwin County orchard. Orchard has history of heavy infestation with 1-10 larvae per tree in 50+ percent of all trees per year. (Coats).

SMALL FRUITS

A LEAFHOPPER (Scaphoideus titanus) - KENTUCKY - Adult male taken on grape vines near Elizabethtown, Hardin County, June 19, 1975. Collected and determined by D. Barnett. Confirmed by P.H. Freytag. This is a new county record. (Barnett).

ORNAMENTALS

EUONYMUS SCALE (Unaspis euonymi) - TEXAS - Heavy on euonymus in Bell, Mills, and Brown Counties week ending November 21. Plants died where stressed for moisture. Heavy defoliation common on many infested plants. (Hoelscher).

CAMELLIA SCALE (Lepidosaphes camelliae) - MISSISSIPPI - Heavy on camellia in southern half of State week ending December 5. (Hepner).

FLORIDA WAX SCALE (Ceroplastes floridensis) - ILLINOIS - Heavy on dogwood and holly at Nashville, Davidson County, week ending December 12; controls planned. (Ill. Ins. Rpt.).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - FLORIDA - Damage heavy to roses, pittosporum, and smilax in several commercial nurseries at Leesburg, Lake County. Buildup due to improper timing and poor spray coverage. Crowded plants in some nurseries prevented adequate spray coverage. (Fla. Coop. Sur.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Decreased significantly in Coastal Plain week ending November 14. Some active flights noted. Activity decreased slightly in northern Piedmont, Charlotte area, and east of Asheville. (N.C. For. Ser.). Flying adults still taken on Monroe County sticky traps December 5. (Hepner).

ENGRAVER BEETLES (Ips spp.) - FLORIDA - Building up to heavy populations by December 5 in Walton and Okaloosa Counties on pines damaged by hurricane Eloise. Damaged species include slash, longleaf, loblolly, spruce, and sand pines. (Fla. Coop. Sur.).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - FLORIDA - Building up to heavy numbers in pines, Pinus spp., damaged by hurricane Eloise in panhandle area of State, primarily in Walton County but also in Okaloosa County by December 5. (Fla. Coop. Sur.).

A SIRICID WASP (Eriotremex formosanus) - GEORGIA - One female collected at large about one mile from Hunter Army Air Field in Chatham County by L.D. Cline in November 1974. Determined by L.D. Cline; confirmed by D.R. Smith. This collection predates previous United States record from Alabama. (Cline). See CEIR 25(44):851-854. FLORIDA - Adult female netted in clearing near edge of mixed woods, Spring Lake, 8 miles southwest of Marianna, Jackson County, by W.M. Cross May 25, 1975. Determined by W.H. Cross; confirmed by D.R. Smith. This is a new State record. (Fla. Coop. Sur.).

AN OLETHREUTID MOTH (Episimus tyrius) - MARYLAND - Spotty moderate to light damage on red maple, silver maple and less on Norway maple in central and southern area week ending November 28. Damage more noticeable than in 1974. (U. Md., Ent. Dept.).

A GEOMETRID MOTH (Thysanopyga intractata) - VIRGINIA - Defoliated 50-75 percent of hundreds of acres of American holly in Northumberland County week ending December 12. Most damage occurred in protected dense woodlands along streams. (Allen).

A PHYTOPTID MITE (Trisetacus floridanus) - FLORIDA - Collected from Pinus clausa (sand pine) at Port St. Lucie, St. Lucie County, November 4, 1975, by E.W. Campbell. Determined by H.A. Denmark. This is a new county record. (Fla. Coop. Sur.).

MAN AND ANIMALS

SCREWORM (Cochliomyia hominivorax) - Total of 1,559 cases reported from continental U.S. during November 9-22 as follows: Texas 1,489, New Mexico 6, Arizona 43, Oklahoma 1. Total of 959 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 522 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 323,778,000 as follows: Texas 270,084,000, New Mexico 1,998,000; Arizona 51,696,000. Total of 201,060,000 sterile flies released within Barrier of Mexico. (Vet. Serv.).

HORN FLY (Haematobia irritans) - FLORIDA - Decreased due to cold weather, adults averaged 35 per beef animal in herd at Gainesville, Alachua County, week ending November 28. (Fla. Coop. Sur.).

MISSISSIPPI - Adults 5-10 per beef animal in Noxubee County week ending November 21. (Robinson). OKLAHOMA - Light populations still active on cattle in southwest counties week ending November 21. (Okla. Coop. Sur.).

YELLOWFEVER MOSQUITO (Aedes aegypti) - TENNESSEE - Adults and larvae collected from old tires September 6, 1975, at Nashville, Davidson County. Collected by G.E. Ingram. Determined by R.F. Darsie. This is a new county record. (Gordon, Bruer).

A HIPPOBOSCID FLY (Pseudolynchia canariensis) - ALABAMA - Heavy on pigeons grown commercially on farm with quail and rabbits near Phenix City, Russell County. Collected by B. Pearson October 19, 1975. Determined by F.C. Thompson. This is a new county record. Many pigeons in area died over past several months from disease. (McQueen).

HOUSEHOLDS AND STRUCTURES

BROWNBANDED COCKROACH (Supella longipalpa) - MINNESOTA - Noted in residence at St. Paul, Ramsey County, week ending November 21. Infestation heavy, regular household insecticides ineffective. Species one of least reported in State, infestation source unknown. (Minn. Pest Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - CALIFORNIA - No additional adults or larvae found in Los Angeles County from November 18 to December 15. Total of 84,889,997 sterile pupae and adults released to December 15 in 28 square-mile area. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - FLORIDA - Problem in localized areas of 4,000 acres of young citrus near Ft. Pierce, St. Lucie County, week ending November 21. Heavy fertilization caused bark splitting and sap flow, resulting in fire ants feeding on sap and building sand cover over bud unions and in limb crotches. Some dieback and tree mortality noted. (Fla. Coop. Sur.).

HAWAII INSECT REPORT

General Vegetables - A MEMBRACID BUG (Antianthe expansa) heavy on tomato and eggplant in backyard gardens at Ewa, Oahu, week ending November 21. Hundreds of nymphs and adults found per plant. No damage visible. (Mau). Heavy counts and damage in backyard plantings of chili pepper at Hilo, Hawaii Island, week ending December 5. All stages present. (Yoshioka). BROAD MITE (Polyphagotarsonemus latus) damage heavy in backyard plantings of bell pepper at Ewa week ending November 21. Infested 80+ percent of plants in several gardens. (Mau). BEET ARMYWORM (Spodoptera exigua) moderate on commercial plantings of green onions at Waikapu, Maui, week ending November 28. Up to 15-20 percent of leaves infested or damaged. (Miyahira). DIAMONDBACK MOTH (Plutella xylostella) larvae light to heavy in daikon, Chinese cabbage, cauliflower, and head cabbage at Volcano and Waimea, Hawaii Island, week ending December 5. Heavy in 0.5-1.0 acre of Chinese cabbage at Volcano, Hawaii Island. Larvae 15 per head. Light to moderate on cauliflower (0.5 acre) and head cabbage (5 acres). Moderate, with damage on 5+ acres head cabbage and in 6+ acres Chinese cabbage at Waimea. (Shishido, Mau). CABBAGE LOOPER (Trichoplusia ni) and GREEN GARDEN LOOPER (Chrysodeixis chalcites) counts and damage moderate to heavy on 10+ acres of Iceberg lettuce at Kula, Maui, week ending December 12. Larvae up to 14, averaged 5-8, per head on nearly all heads. (Mau). TOMATO PINWORM (Keiferia lycopersicella) severely infested and damaged nearly all tomato fruit on 3 acres at Pulehu, Maui, week ending December 12. Some plants averaged 2-3 per leaflet. Moderate counts on 4-5 acres of tomato at Kula. Infested 30 percent of fruits. (Murai, Mau).

Fruits and Ornamentals - ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) light on roses at Kalihi and Kalihi Valley, Oahu, week ending November 21. Scattered from the residential area surrounding Fort Shafter and into the valley. Infested area, farthest west of original infestation site at Kapahulu, Oahu. (Fine, Mau). OLEANDER

HAWK MOTH (Deilephila nerii) severely damaged several gardenia plants (10-12) at Kailua and Kona, Hawaii Island, week ending December 5. (Yoshioka). Heavily damaged crepe gardenia at Haiku, Maui, week ending December 12. Many late instar found. (Ah Sam). BANANA SKIPPER (Erionota thrax) damage moderate to heavy on banana week of December 12 at Pahoehoe, Hakalau, Laupahoehoe, and Waimea, Hawaii Island. (Matayoshi).

Households and Structures - FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus) definitely established on Molokai at Kipu, and possibly at Kaunakakai. Found in telephone and fence poles at Kipu. Kipu infestation and heavy damage to parts of warehouse at Kaunakakai indicate eradication from this island may be impossible. Pseudoworkers and alates of FOREST TREE TERMITE (Neotermes connexus) heavy in dead branches of Eucalyptus trees at Kipu. This termite present on all major islands. (Tamashiro, Lai).

Beneficial Insects - AN ENCYRTID WASP (Ooencyrtus erionotae) definitely established on Molokai. Surveyed at Kipu week ending November 28. No releases made. (Miyahira). Parasitized 61-75 percent of Erionota thrax eggs at Hilo. (Matayoshi). A PTEROPHORID MOTH (Oidaematophorus sp.) severely defoliated Hamakua pamakani at Volcano. Defoliated 70-80 percent of terminals along several hundred yards of roadside weeds, Galling by a GALL FLY (Procecidochares alani) on 80-90+ percent of Hamakua pamakani terminals at Onomea and several other locations along Hamakua coast of Hawaii Island week ending December 5. Adults light. (Shishido, Mau). Release of 250 adults of A SCARAB (Canthon humectus) against Haematobia irritans (horn fly) at Ulupalakua, Maui, week of December 12. First release on Maui. (Miyahira, Yoshioka).

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville, 12/5-11, BL, ARMYWORM (Pseudaletia unipuncta) 3, BLACK CUTWORM (Agrotis ipsilon) 6, FALL ARMYWORM (Spodoptera frugiperda) 1, GRANULATE CUTWORM (Feltia subterranea) 5.

KENTUCKY - Fayette County, 12/5-12, BL, Armyworm 1, black cutworm 1, VARIEGATED CUTWORM (Peridroma saucia) 1.

DETECTION

New Western Hemisphere Record - A SIRICID WASP (Eriotremex formosanus) - GEORGIA - Chatham County. (p. 899).

New State Records - AN ANT (Pheidole moerens) - FLORIDA - Alachua County. (p. 906). A SIRICID WASP (Eriotremex formosanus) - FLORIDA - Jackson County. (p. 899).

New County Records

A LEAFHOPPER (Osbornellus clarus) - KENTUCKY - Adult male collected in blacklight trap near Bowling Green, Warren County, June 23, 1975. Collected and determined by D. Barnett; confirmed by P. Freytag. (Barnett).

A LEAFHOPPER (Scaphoideus intricatus) - KENTUCKY - Adult male collected in malaise trap near Spears, Jessamine County, by P.H. Freytag August 22-30, 1974. Determined by P.H. Freytag and confirmed by D. Barnett. (Barnett).

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Dona Ana (p. 897).

CLOVER LEAF WEEVIL (Hypera punctata) NEW MEXICO - Dona Ana (p. 897).

EUROPEAN CORN BORER (Ostrinia nubilalis) FLORIDA - Okaloosa, Calhoun (p. 896).

A HIPPOBOSCID FLY (Pseudolynchia canariensis) ALABAMA - Russell (p. 899).

A PHYTOPTID MITE (Trisetacus floridanus) FLORIDA - St. Lucie (p. 899).

YELLOWFEVER MOSQUITO (Aedes aegypti) TENNESSEE - Davidson (p. 899).

CORRECTIONS

CEIR 25(33):690, 693 - Delete DEER FLY (Silvius pollinosus) - NEW MEXICO - ... Determination should read "... (Silvius quadrivittatus) ... Confirmed by F.C. Thompson." (N.M. Coop. Rpt.).

CEIR 25(45-48):872 and 880 - FOREST AND SHADE TREES "'DOUGLAS FIR TUSSOCK MOTH (Orgyia pseudosugata) ..." should read "DOUGLAS FIR TUSSOCK MOTH (Orgyia pseudosugata) ..."

CEIR 25(45-48):878 - CORRECTIONS - Second group - "... Aulacara elliotti ..." should read "... Aulocara elliotti ..."

CEIR 25(45-48):879 - DETECTION - "A MEALYBUG (Brevennia rehi) ... Hildago County. (p. 859)." should read "A MEALYBUG (Brevennia rehi) ... Hidalgo County. (p. 869).

CEIR 25(45-48):880 - DETECTION - "AN ERIOPHYID MITE (Eriophyes macrocarpae) ..." should read "AN ERIOPHYID MITE (Eriophyes microcarpae) ..."

Dryocosmus kuriphilus Yasumatsu, (Hymenoptera: Cynipidae),
An Oriental Chestnut Gall Wasp in North America

J.A. Payne 1/, A.S. Menke 2/, and P.M. Schroeder 3/

Economic Importance: The cynipid gall wasp, (Fig. 1) Dryocosmus kuriphilus Yasumatsu, threatens the chestnut industry of Japan and Korea (Paik et al., 1963, Shimura, 1972). Resistant trees have been obtained by breeding and selection, but another strain of the wasp has now developed that attacks these resistant trees (Shimura, 1972). Late-ripening varieties of Castanea crenata Siebold and Zuccarini, Japanese chestnut, tend to be more resistant than others. There is little resistance in Castanea mollissima Blume, Chinese chestnut. Dryocosmus kuriphilus was first reported in Japan in 1941 (Yasumatsu, 1951) and introduced into Korea in 1961. It attacks the vegetative buds and disrupts shoot growth through formation of a gall (Fig. 2). The galls suppress shoot elongation and reduce fruiting; trees with severe infestations lose their vigor and often die.

There are few large chestnut groves in the United States, but small plantings consisting largely of seedling Chinese chestnuts exist in the Midwest, East, and Southeast (Jaynes, 1975). Chinese chestnut seedlings are offered for sale by most mail-order nurseries. In addition, approximately 100,000 chestnut seedlings (1966 survey) are produced annually in State nurseries for distribution to landowners for wildlife and other planting purposes (Christisen, 1969).

Distribution: Japan and Korea. Infestation was first found in the United States in Peach County, Georgia, in 1974 (CEIR 15(33):693, 1975). Approximately 30 acres of commercial grove and scattered yard trees are infested in Fort Valley. A one-acre commercial grove is infested in Byron.

Hosts: Chinese chestnut, Castanea mollissima Blume, and Japanese chestnut, C. crenata Sieb. and Zucc.

Life History and Habits: The wasp has one generation per year in Georgia and Korea. The early instar larvae overwinter inside the chestnut bud. Galls develop in early spring (late March), almost in synchrony with chestnut bud break. Larvae feed 20-30 days before pupating. Adult wasps begin emerging from galls during the first week of June. Emergence is completed in approximately 2 weeks. Males appear to be unknown in this species (Yasumatsu, 1951); only female wasps have been collected in Georgia and Korea. The female lays 3-5 eggs in a cluster inside the buds (Paik, 1963). Larvae hatch in 40 days by late July; larval growth is very slow through the autumn and winter.

1/ Research Entomologist, Southeastern Fruit and Tree Nut
Research Station, ARS, USDA, Byron, GA 31008

2/ Research Entomologist, Systematic Entomology Laboratory,
IIBIII, ARS, USDA, Washington, D.C. 20560

3/ Entomologist, New Pest Detection and Survey Staff, PPQ, APHIS,
USDA, Hyattsville, MD 20782

Description: EGG - Oval, milky white, 0.1-0.2 mm. long. LARVA - 2.5 mm. long when fully grown, milky white when newly hatched. PUPA - Black, 2.5 mm. long. ADULT (Fig. 1) - 3 mm. long; body black; legs (except last tarsal segment), scape and pedicel, clypeal apex, and middle of mandible yellow brown; frons and vertex of head weakly shining, very finely sculptured; scutum, side of scutellum, mesopleuron, and abdomen highly polished, impunctate; rest of body sculptured; scutum with two uniformly impressed convergent grooves (notaulices); marginal cell of forewing open along wing margin; female antenna with 14 segments, apical segments not expanded into a club. GALL - Diameter 8-15 mm., greenish, often containing portions of developing leaves, stems, and petioles. After adult emergence, the gall dries, becomes woodlike, and remains attached to the tree for several years (Fig. 3).

References

- Christisen, D.M. 1969. Nut tree plantings for wildlife, pp. 365-375. In R.A. Jaynes (ed.) Handbook of North American nut trees. 421 pp. Northern Nut Growers Assoc., Knoxville, Tennessee.
- Jaynes, R.A. 1975. Chestnuts, pp. 490-503. In J. Janick, and J.N. Moore (ed.), Advances in fruit breeding. 623 pp. Purdue Univ. Press, West Lafayette, Indiana.
- Paik, Un-ha and 12 Coauthors. 1963. Pure-black chestnut tree wasp, pp. 391-392. In A study of the noxious insect pests harmful to crops and trees in our country. 522 pp. Hyang-Moon-Sa, Seoul, Korea (In Korean).
- Shimura, I. 1972. Studies on the breeding of chestnut, Castanea spp. II. Parasitic variation in the chestnut gall wasp, Dryocosmus kuriphilus Yasumatsu. Bull. Hort. Res. Sta., Ser. A, No. 11, 13 pp. (In Japanese with English summary).
- Yasumatsu, K. 1951. A new Dryocosmus injurious to chestnut trees in Japan (Hym., Cynipidae) Mushi:22:89-93.

See illustrations on next page.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(49-52):903-905, 1975

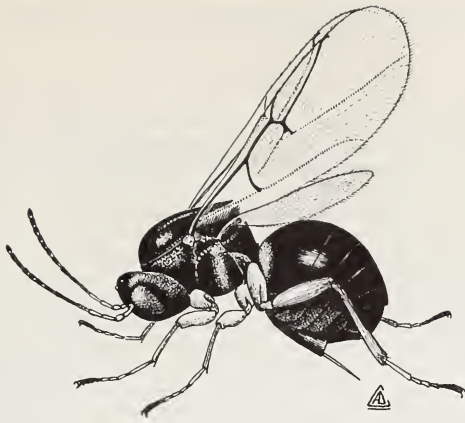


Fig. 1 Adult chestnut gall wasp, Dryocosmus kuriphilus Yasumatsu.



Fig. 2 Chestnut galls containing portions of leaves and petioles.



Fig. 3 Dried galls sometimes remain attached to the branch several years after departure of the gall wasp, thus making survey easy.

First Report of *Pheidole moerens* in Florida
(Hymenoptera: Formicidae)

Daniel P. Wojcik 1/, W.A. Banks 1/, and W.F. Buren 2/.

Pheidole moerens Wheeler, described from Puerto Rico (Wheeler, 1908), is one of the commoner species of *Pheidole* in Puerto Rico, but *Culebra* is the only other West Indian Island that it has been reported from (Smith, 1936). We recently (June 1975) collected this species in Mobile, Alabama, confirming Smith's 1967 report.

In a current survey to determine the effects of the red imported fire ant, *Solenopsis invicta* Buren, on native ant species, *P. moerens* was collected in Gainesville, Florida. This survey is conducted bimonthly by placing 2 baits (ground beef and honey (40 percent) in agar) on separate squares of heavy aluminum foil, 1-3 feet apart at each of 100 baiting sites. *P. moerens* was collected on one or both of the baits 7 times at 5 widely scattered sites in January, May, and November 1973 and in July 1974. With its first collection, *P. moerens* was recognized to be different from *P. floridana* Emery (a similar species, commonly found in Gainesville). One of us (W.F.B.) compared Gainesville specimens with the types of *P. moerens* at the Museum of Comparative Zoology, Harvard University, and found them to be conspecific.

In *P. moerens*, the prothorax of the majors is transversely rugulose; the head of the minors is densely granulose with longitudinal rugulae on the anterior half, and the postpetiole is globular and not more than 1.5 times the width of the petiole. *P. floridana* differs because the prothorax of the majors is densely covered with granulose sculpture without transverse rugulae; the head of the minors is densely granulose without longitudinal rugulae on the anterior half, and the postpetiole is pyriform and twice as wide as the petiole.

References

- Smith, M.R. 1936. The ants of Puerto Rico. J. Agr. Univ. Puerto Rico 20:819-75.
- Smith, M.R. 1967. Formicidae. In K.V. Krombein and B.D. Burks, eds., Hymenoptera of America North of Mexico, Synoptic Catalog, USDA, Agr. Monog. 2 (Suppl. 2):343-374.
- Wheeler, W.M. 1908. The ants of Porto Rico and the Virgin Islands. Bull. Am. Mus. Nat. Hist. 24:117-58.

1/ USDA, ARS, Insects Affecting Man Research Laboratory, P.O. Box 14565, Gainesville, FL 32604.

2/ Department of Entomology and Nematology, University of Florida, Gainesville, FL 32611.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(49-52):906, 1975

The Use of Bait Traps for Assessment of Stored-Product
Insect Populations

D.B. Pinniger 1/

An assessment technique useful for both evaluation of insecticidal disinfestation treatments and for monitoring population levels has been developed at PICL (Pest Infestation Control Laboratory at Slough).

Residual populations of beetles may be composed of individuals or small groups of insects in cracks, crevices, and other dead spaces. At any given time most insects are inactive and remain hidden, but a small percentage are actively wandering over the exposed fabric of the building. When heavy infestations occur, the proportion of wandering insects is obvious but with light infestations the very few active beetles are difficult to detect by visual inspection. The aim of a bait technique is to insert a standard trap into the environment which will arrest the movement of these wandering insects and perhaps attract other insects from harbourages. Insects present in the trap can then be counted and results compared with data from other traps and trap periods.

Other workers have used gunny trap bags for infestation surveys in stored product environments (Green and Coauthors, 1953; Strong, 1970; and McFarlane and Warui, 1973). The bait trap adopted by PICL is a welded plastic mesh* container with 1.5 mm. apertures, heat sealed on three sides to form an envelope 20 cm. x 10 cm. The envelope is then filled with 130 ml. (85g.) of food material and closed with staples. Various food materials have been tested, the most successful being a mixture of equal parts of wheat, broken groundnuts, and kibbled carobs (locust beans). All food mixture is sterilised at 70 degrees C. for 8 hours before use to kill any stray live insects.

The bait traps are labelled, placed around the storage area being surveyed, and left in position for a known period of time (2-7 days). They are then examined by shaking the bait trap vigorously over a white tray. Any insects present, fall through the mesh, which acts as a sieve, and on to the tray where they can be counted. If it is not practicable to count on site, the insects may be collected in a tube, or the baits can be placed in sealed polyethylene bags and examined later.

*Mesh Ref. Code 032 supplied by Netlon Ltd., N.E. Wing Bush House Aldwych, London WC2B 4PX

1/ Pest Infestation Control Laboratory, Ministry of Agriculture, Fisheries and Food, Slough, Berks, England.

Traps have been successfully used in farms, mills, and warehouses in wall/floor angles and corners, dead spaces under machinery and behind bulkheads, elevator pits, and conveyor tunnels. Infestation outside storage premises has been detected by placing bait traps under a waterproof cover in the open. Infestations in ships have been detected in deck/bulkhead angles, bilges, box beams, ledges, behind shifting boards, and under dunnage. In many cases insects have been detected in bait traps when they have not been found during normal inspection. Temperature is an important influence on the activity of insects and higher catches have been obtained in the United Kingdom when temperatures have been above 15 degrees C. The absence of an alternative food supply greatly increases the effectiveness of bait traps and they are most effective in empty buildings, etc. However, insects can be detected in the vicinity of foodstuffs, for example around stacks of bagged goods.

Although primarily developed for detecting Oryzaephilus surinamensis, a wide range of beetle species has been found in bait traps (Table 1).

Table 1.--Beetle species found in bait traps.

Species	Ships	Farms	Other Premises	Maximum number per bait trap
<u>Ahasverus advena</u>	-	+	-	10
<u>Attagenus sp.</u>	+	-	-	14
<u>Cryptolestes sp.</u>	+	+	+	5
<u>Dermestes sp.</u>	+	-	-	3
<u>Gibbium psylloides</u>	+	-	-	7
<u>Lasioderma serricorne</u>	+	-	-	20
<u>Necrobia rufipes</u>	+	-	-	3
<u>Oryzaephilus surinamensis</u>	+	+	+	20,000
<u>Oryzaephilus mercator</u>	+	-	-	100
<u>Palorus ratzeburgi</u>	-	-	+	50
<u>Ptinus fur</u>	-	+	+	1
<u>Ptinus tectus</u>	-	-	+	5
<u>Sitophilus granarius</u>	+	+	+	50
<u>Sitophilus oryzae</u>	+	-	-	3
<u>Stegobium paniceum</u>	+	-	-	6
<u>Tribolium castaneum</u>	+	-	+	200
<u>Tribolium confusum</u>	-	-	+	12
<u>Trogoderma granarium</u>	+	-	+	30
<u>Typhaea stercorea</u>	+	+	+	20

Moth larvae of the following species have also been found in bait traps: Ephestia elutella, E. cautella, Coreyra cephalonica, Endrosia sarcitrella.

The larvae are difficult to dislodge by the normal shaking technique and bait traps should therefore be emptied and the contents sieved.

Bait traps used for monitoring O. surinamensis in farm granaries have sometimes contained large numbers of mites including Acarus siro and Glycyphagus destructor.

The technique is therefore useful:

1. As an additional inspection tool to determine the presence of a particular pest species in a storage situation. (The present bait trap material was designed for detection of O. surinamensis and could be modified to detect other species, for example pulses for bruchids.)
2. To determine the range and relative levels of pest species present in different parts of an environment or at different times of the year.
3. To assess the effectiveness of insecticidal treatments and other control programmes both quantitatively and qualitatively.
4. For collection of insects, for example, for resistance testing (Dyte et al., 1975).

Laboratory and field investigations are being continued, including the monitoring of infestations in holds of ships during transit from the tropics to the United Kingdom. Further work is being carried out to determine the efficiency and consistency of bait trap catches in relation to population density, environmental conditions, trap exposure time, and bait trap attractiveness.

Acknowledgements

I should like to thank K.B. Wildey and J.A. Hope, PICL Slough, and the regional staff of the Infestation Control Division for their help in distribution, collection, and examination of bait traps.

References

- Dyte, C.E. and Coauthors. 1975. Some consequences of the development of insecticide resistance in stored product insects. Proc. 1st Int. Conf. Stored Product Ent. Savannah 1975.
- Green, A.A. and Coauthors. 1953. Pest Infestation Research. p. 21.
- McFarlane, J.A. and Warui, C. 1973. A simple technique for stored product infestation surveys. Trop. Stored Prod. Inf. 24: 17-24.
- Strong, R.G. 1970. Distribution and relative abundance of stored products insects in California. A method of obtaining sample populations. J. Econ. Ent. 63(2):591-596.
- U.S. Dept. Agr., Coop. Econ. Ins. Rpt. 25(49-52):907-909, 1975

G.C. Steyskal 1/

The common pest known for a long time as Hylemya brassicae (Bouché) has been shown by Hennig (1974, Die Fliegen der palaearktischen Region, fam. 63a (fig. 36):751) to have been described, fortunately under the same name, by Wiedemann in 1817 (as Anthomyia brassicae, Zool. Mag. 1:78). This name is shown by Hennig to have been carried erroneously for a long time as a synonym of Hylemya radicum (Linnaeus). Hennig cites the name as by "Hoffmannsegg apud Wiedemann," but according to the International Code of Zoological Nomenclature, because the description was by Wiedemann rather than by Hoffmannsegg, the name should be credited to Wiedemann. The proper name of the cabbage maggot is therefore Hylemya (Delia) brassicae (Wiedemann) if it is desired to indicate the subgenus name, or otherwise Hylemya brassicae (Wiedemann). To those, few in this country, who consider Delia to be of full generic rank, the name would be Delia brassicae (Wiedemann).

1/ Systematic Entomology Laboratory, IIBIII, ARS, USDA, Mail
Address: c/o U.S. National Museum, Washington, D.C. 20560.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(49-52):910, 1975

Spider Mites (Tetranychidae: Acarina)
from Southeast Asia and Japan

E.W. Baker 1/

I have recently spent three months in Thailand studying the tetranychid mites as a consultant for FAO. Because many tetranychids from Southeast Asia and Japan are widely distributed, it has been critical to compile a list of species known to occur in this region before starting studies on the spider mites of Thailand. Much of the previously published data given here has been taken from the works of Shozo Ehara, Tottori University, Japan. Other important studies are by D.C.M. Manson, L.C. Rimando, and P.K-C. Lo.

Several of the mites native to Southeast Asia and Japan are now found in many parts of the world, including the United States, and are considered to be serious pests. Because most of the spider mites of Thailand appear to cause serious damage to their hosts, any accidental introduction of these species into the United States could potentially have serious consequences. Therefore, it seems desirable to present the following list with information on hosts and pertinent references as an aid for quarantine related identifications and as a foundation for future work on the tetranychid fauna of Southeast Asia and Japan.

Ninety species of spider mites are recorded from the above areas. Sixty-four of these are not known to be established in the United States, and 61 are not known from Thailand. The host lists include many plants that are currently cultivated in the United States.

Bryobia Koch, 1836

*Bryobia eharai Pritchard and Keifer, 1958
Japan, Taiwan
Chrysanthemum

*Bryobia japonica Ehara and Yamada, 1968
Japan
Wildrose

Bryobia praetiosa Koch, 1836

Japan, Taiwan
Apple, Campanula medium, clover, grass, Iris, pear,
Sphenoclea seylanica, strawberry

Tetranychina Banks, 1917

Tetranychina harti (Ewing)

Japan, Taiwan
Oxalis

*Mites not yet known in the United States

1/ Systematic Entomology Laboratory, IIBIII, ARS, USDA, Beltsville,
MD 20705

Petrobia Murray, 1877

Petrobia latens (Müller, 1776)

Japan

Allium, grass, strawberry

Tetranychopsis Canestrini, 1889

*Tetranychopsis borealis Ehara and Mori, 1969

Japan

Rubus chamaemorus, R. parvifolius

Eutetranychus Banks, 1917

*Eutetranychus africanus (Tucker), 1926

Burma

Citrus

*Eutetranychus orientalis (Klein, 1936)

Japan, Taiwan, Hong Kong, Thailand, Philippines

Annona, Artocarpus integra, Bauhinia purpurea, Calotropis gigantea, Carica papaya, Cassia, Citrus, croton, Durio zibethinus, Euphorbia, frangipani, Gliricidia, grapes, grass, Hedera japonica, Jatropha multifida, leguminous tree, Manihot, Menispermaceae, Muntingia calabura, Murraya paniculata, Musa sapientum, Nerium indicum, Pachira macrocarpa, peach, Persea americana, Psophocarpus tetragonolobus, Pterocarpus macrocarpus, Pyrus pyrifolia, rambutan, Ricinus communis, santol, shaddock, Schismatoglottis, squash, Terminalia catappa, Theobroma cacao, Thevetia peruviana

Aponychus Rimando, 1962

*Aponychus corpuzae Rimando, 1962

Japan, Taiwan, Thailand, Philippines

Bamboo, Bambusa stenostachya, Schizostachyum lima

*Aponychus nakaoui Ehara and Wongsiri, 1975

Thailand

Bamboo

*Aponychus siamensis Ehara and Wongsiri, 1975

Thailand

Bamboo

*Aponychus vannus Rimando, 1968

Thailand, Philippines

Bamboo

Panonychus citri (McGregor, 1916)

Japan, Taiwan, Hong Kong, Thailand. (Early identifications of this mite may include Panonychus elongatus Manson.)
Avocado, Areca cathecu, Averrhoa, Boehmeria, Carica papaya,
Citrus, Coccoloba uvifera, Cocos nucifera, Coculus
trilobus, Ficus, Jasminum, Morus australis, Murraya
paniculata, Osmanthus, Pithecellobium dulce, Prunus
persica, Pyrus pyrifolia, Rosa, Sapodilla, Trachycarpus
excelsa, Vitis vinifera.

*Panonychus elongatus Manson, 1963

Burma, Thailand
Citrus

*Panonychus globosus Tseng, 1974

Taiwan
Achyranthes obusforia, Vitis

Panonychus ulmi (Koch, 1836)

Japan
Apple, pear

Allonychus Pritchard and Baker, 1955

*Allonychus bambusae Lo, 1969

Taiwan
Bambusa

Eotetranychus Oudemans, 1931

*Eotetranychus asiaticus Ehara, 1956

Japan, Taiwan
Citrus, Ficus erecta, grape, guava, Morus, persimmon,
shaddock

*Eotetranychus boemeriae Lo, 1969

Taiwan
Boehmeria nivea, Broussonetia papyrifera

*Eotetranychus boreus Ehara, 1969

Japan
Apricot, plum

*Eotetranychus camelliae Tseng, 1975

Taiwan
Camellia sasanqua

*Eotetranychus celtis Ehara, 1965

Japan, Thailand
Celtis sinensis var. japonicus, Morus

*Eotetranychus shii Ehara, 1965

Japan
Shiia sieboldii

- *Eotetranychus cendanai Rimando, 1962
 Taiwan, Thailand, Cambodia, Philippines
Citrus, C. aurantifolia, C. hystrix, C. nobilis, Gliricidia
sepium, Murraya paniculata, Sesbania grandiflora,
 shaddock
- *Eotetranychus geniculatus Ehara, 1969
 Japan
 Grape, strawberry
- *Eotetranychus kankitus Ehara, 1955
 Japan
Citrus
- *Eotetranychus maai Tseng, 1975
 Taiwan
Rubus
- Eotetranychus sexmaculatus (Riley, 1890)
 Taiwan
Citrus
- Eotetranychus smithi Pritchard and Baker, 1955
 Japan
 Grape, pear
- *Eotetranychus spanius Rimando, 1962
 Philippines
Psidium guajava
- *Eotetranychus suginamensis (Yokoyama, 1932)
 Japan
Morus, Quercus serrata
- *Eotetranychus suvipakiti Ehara and Wongsiri, 1975
 Thailand
 Banana, Dioscorea
- *Eotetranychus thailandicus Ehara and Wongsiri, 1975
 Thailand
Ficus
- Schizotetranychus Trägårdh, 1915
- *Schizotetranychus andropogoni (Hirst, 1926)
 Thailand
 Sugarcane
- *Schizotetranychus baltazarare Rimando, 1962
 Philippines, Taiwan, Burma
Citrus nobilis
- *Schizotetranychus bambusae Reck, 1941
 Japan
 Bamboo

- *Schizotetranychus bhandhufalcki Ehara and Wongsiri, 1975
Thailand
Cassia, C. siamea, leguminous plants, Pterocarpus macrocarpus
- Schizotetranychus celarius (Banks, 1917)
Japan, Hong Kong
Bamboo, grass, rice
- *Schizotetranychus cercidiphylli Ehara, 1973
Japan
Cercidiphyllum japonicum
- *Schizotetranychus chiangmaiensis Ehara and Wongsiri, 1975
Thailand
Calotropis gigantea
- *Schizotetranychus floresi Rimando, 1963
Philippines
Bambusa spinosa
- *Schizotetranychus lanyuensis Tseng, 1975
Taiwan
Hosts unknown
- *Schizotetranychus lechrius Rimando, 1962
Philippines, Taiwan
Bean, Citrus, Colocasia esculentam
- *Schizotetranychus leguminosus Ehara, 1973
Japan
Maackia amurensis var. buergeri, Pueraria lobata
- *Schizotetranychus mori Tseng, 1975
Taiwan
Morus
- *Schizotetranychus vermicularis Ehara and Wongsiri, 1975
Thailand
Grass
- *Schizotetranychus yaungi Tseng, 1975
Taiwan
Citrus medica var. sarcodactylis, C. paradisi
- *Schizotetranychus yoshimekii Ehara and Wongsiri, 1975
Thailand
Rice

Oligonychus Berlese, 1886

- *Oligonychus antherius Rimando, 1963
Philippines
Desmodium gangeticum, Flemingia strobilifera
- Oligonychus bicolor (Banks, 1894)
Taiwan
Acer cinnamomifolium, Zelkova serrata

Oligonychus biharensis (Hirst), 1924

Taiwan, Thailand, Philippines

Acacia confusa, Achras zapota, Ampelopsis heterophylla,
apple, Artocarpus integer, Bauhinia purpurea, Bischofia
javanica, Cassia fistula, Citrus, Diospyros, Durio
zibethinus, Eriobotrya japonica, Erythrina, Eugenia
javanica, Euphoria longana, Goniothalamus undulatus,
Hevea, Hibiscus tiliaceus, legume, Lepisanthus
sengalensis, Litchi chinensis, Macaranga bicolor,
Mangifera indica, Musa, Persea americana, Pleuropterus
hypoleucus, Pyrus pyrifolia, Rosa, Sapindus mukorossi,
Vitis vinifera, Zizyphus cambodiana

Oligonychus coffeae (Nietner, 1861)

Taiwan, Thailand, Philippines

Alnus japonicus, avocado, Citrus, Combretum quadrangulare,
Juniperus chinensis, mango, Punica granatum, Syzygium
jambos, tea

*Oligonychus exsicicator (Zehntner, 1897)

Java, Indonesia

Sugarcane

Oligonychus hondoensis (Ehara, 1954)

Japan

Japanese cedar

*Oligonychus kadarsani Ehara, 1969

Java, Indonesia

Sugarcane

*Oligonychus karamatus (Ehara, 1956)

Japan

Larix leptolepis

Oligonychus mangiferus (Rahman and Sagra, 1940)

Taiwan

Annona squamosa, Bauhinia acuminata, Delonix, Euphoria
longana, Mangifera indica, Musa, Rosa, Terminalia
catappa

*Oligonychus matthyssei Rimando, 1963

Philippines

Gliricidia sepium

*Oligonychus modestus (Banks, 1900)

Thailand

Cocos nucifera

*Oligonychus orthius Rimando, 1963

Japan, Taiwan, Thailand, Philippines

Imperata cylindrica, Musa sp., Saccharum officinarum, Sorghum
vulgare, Zea mays

*Oligonychus oryzae (Hirst, 1926)

Thailand

Corn, Musa

- *Oligonychus penai Rimando, 1963
Philippines
Ixora chinensis
- *Oligonychus perditus Pritchard and Baker, 1955
Japan, Taiwan, Hong Kong
Chamaecyparis, Juniperus
- *Oligonychus rubicundus Ehara, 1971
Japan
Miscanthus sinensis
- *Oligonychus shinkajii Ehara, 1963
Japan, Taiwan
Corn, Languas speciosa, rice, sugarcane, Trachycarpus excelsa
- Oligonychus subnudus (McGregor, 1950)
Taiwan
Pinus
- *Oligonychus tsudomei Ehara, 1966
Japan
Pinus luchuensis
- *Oligonychus urma Ehara, 1966
Japan
Bamboo
- *Oligonychus velascoi Rimando, 1962
Thailand, Philippines
Banana, coconut, Corchorus, Musa x paradisiaca, Pennisetum purpureum
- *Oligonychus yuae Tseng, 1975
Taiwan
Cunninghamia
- *Oligonychus yasumatsui Ehara and Wongsiri, 1975
Thailand
Pinus kesiyu
- Tetranychus Dufour, 1832
- Tetranychus cinnabarinus (Boisduval, 1867)
Japan, Philippines
Citrus, Musa acuminata, pear, Phaseolus vulgaris, soybean, strawberry

Tetranychus desertorum Banks, 1900

Japan

Cucumber, eggplant, melon, Phaseolus, Physalis pruinosa,
soybean

*Tetranychus fijiensis Hirst, 1929

Thailand, Philippines

Citrus, coconut, Dieffenbachia picta, peach, pear, pummelo,
Ptychosperma macarthuri

Tetranychus hydrangeae Pritchard and Baker, 1953

Taiwan, Thailand, Philippines

Codiaeum variegatum, Ficus religiosa, Glycine, grape,
Hydrangea macrophylla, Manihot utilisima, Melia,
Polygonum multiflorum, Rosa, Rubus and many others

*Tetranychus kanzawai Kishida, 1927

Japan, Taiwan, Hong Kong, Philippines

Apple, Citrus, clover, corn, eggplant, Ehretia macrophylla,
grape, hop, Manihot maritima, Morus, Murraya paniculata,
peach, pear, Phaseolus lunatus, Sambucus, Solanum nigrum,
soybean, tea, Terminalia catappa, Verbena hortensis,
V. phlogiflora.

*Tetranychus lambi Pritchard and Baker, 1955

Taiwan

Cordyline terminalis

Tetranychus ludeni Zacher, 1913

Taiwan

Fragaria chiloensis, Ipomoea batatas, Livistonia, Rubus,
Solanum tervum, Vitis vinifera

Tetranychus marianae McGregor, 1950

Thailand, Philippines

Bamboo, Centrosema pubescens, Ipomoea aquatica, I. triloba,
Merremia vitifolia, Morus

Tetranychus neocalidonicus Andre, 1933

Taiwan, Hong Kong, Philippines

Acalypha stipulacea, Acalypha wilkesiana, Ageratum conyzoides,
Aleurites, Artocarpus integrifolia, banana, Buddleia
paniculata, Ceiba pentandra, Colocasia esculenta, Gynura
crepedioides, Ipomoea, Iris, Merremia vitifolia,
Moringa oleifera, Morus alba, Musa x paradisiaca,
Mussaenda philippica, Nephrolepis exaltata, Ruellia
tuberosa, Solanum melongena, S. tervum, S. verbascifolium,
Tectona grandis, Zea mays

*Tetranychus phaselus Ehara, 1960

Japan, Taiwan

Glycine, Phaseolus vulgaris, soybean

- *Tetranychus piercei McGregor, 1950
 Japan, Taiwan, Hong Kong, Philippines
Ageratum esculenta, Carica papaya, Cliforea ternates,
Colocasia esculenta, Musa sapientum, M. textilis,
 palm, Prunus persica, sweetpotato
- *Tetranychus ricini Tseng, 1975
 Taiwan
Ricinus communis
- *Tetranychus taiwanicus Ehara, 1969
 Taiwan, Thailand
Citrus, Pandanus odoratissimus
- "Tetranychus telarius (Linnaeus, 1758)"
 Japan, Taiwan. (According to Ehara this appears to be a
 mixture of T. cinnabarinus and T. urticae.)
- *Tetranychus truncatus Ehara, 1956
 Japan, Taiwan, Thailand, Philippines
Achyranthes aspera, Ameranthus spinosus, Ameranthus tricolor,
Brassica pekinensis, Carica papaya, Ceiba
pentandra, Celosia argentea, Clerodendron, Cucumis,
Cucurbita maxima, Dahlia, Datura alba, Glycine soja,
Impatiens balsamina, Ipomoea reptans, Lycium chinense,
Manihot, M. esculenta, Melia, Momordica cochinchinensis,
Moringa oleifera, Morus, Oryza sativa, Phaseolus lunatus,
Psidium sativum, Psophocarpus tetragonolobus, Ricinus
communis, Rosa, Sambucus, Sambucus formosana,
Spathiphyllum cannaefolium, Zea mays
- Tetranychus tumidellus Pritchard and Baker, 1955
 Taiwan, Thailand
Morus alba, Sambucus formosana, Solanum
- *Tetranychus umalii Rimando, 1963
 Philippines
Asparagus plumosus
- Tetranychus urticae Koch, 1836
 Japan
 Apple, grape, peach, pear, sweet cherry
- *Tetranychus viennensis Zacher, 1920
 Japan
 Apple, cherry, pear
- Tetranychus yusti McGregor, 1955
 Thailand
Cucumis, Manihot esculenta

References cited

- Ehara, S. 1955. On two spider mites parasitic on Japanese citrus.
 Ann. Zool. Jap. 28(3):178-182.
- Ehara, S. 1956. Some spider mites from Northern Japan. J. Fac.
 Sci. Hokkaido Univ., Ser. VI, Zool. 12(3):244-258.

- Ehara, S. 1956. Tetranychoid mites of mulberry in Japan. J. Fac. Sci. Hokkaido Univ., Ser VI, Zool. 12(4):499-510.
- Ehara, S. 1964. The tetranychoid mites of Japan. Acarologia VI, fasc. h.s.:409-414.
- Ehara, S. 1965. Two new species of Eotetranychus from Shikoku, with notes on E. kankitus Ehara (Acarina: Tetranychidae). J. Fac. Sci. Hokkaido Univ., Ser. VI, Zool. 15(4):618-624.
- Ehara, S. 1966. The tetranychoid mites of Okinawa Island (Acarina: Prostigmata). J. Fac. Sci. Hokkaido Univ., Ser. VI, Zool. 16(1):1-22.
- Ehara, S. 1969. Spider mites of sugar cane in Eastern Asia (Acarina:Tetranychidae). J. Fac. Educ. Tottori Univ. Nat. Sci. 20(1):19-24.
- Ehara, S. 1969. The tetranychoid mites of Taiwan (Acarina: Prostigmata). J. Fac. Educ. Tottori Univ. Nat. Sci. 29(2): 79-103.
- Ehara, S. 1969. Three spider mites of the genus Eotetranychus infesting fruit trees in Japan (Acarina: Tetranychidae). Appl. Ent. Zool. 4(1):16-22.
- Ehara, S. 1971. Description of a new species of Oligonychus, with notes on Bryobia pritchardi Rimando and Tetranychopsis borealis Ehara and Mori (Acari: Tetranychidae). J. Fac. Educ. Tottori Univ. Nat. Sci. 22(1):7-11.
- Ehara, S. 1973. Three species of the genus Schizotetranychus (Acarina: Tetranychidae). Ann. Zool. Jap. Zool. Soc. Jap. 46(4):224-232.
- Ehara, S. 1975. A guide to the tetranychid mites of agricultural importance in Japan. Approaches to biological control JIBP Synthesis 7:15-23.
- Ehara, S. and Lo, H.Y. 1971. Mites associated with plants in Hong Kong. J. Fac. Educ. Tottori Univ. Nat. Sci. 22(2): 61-78.
- Ehara, S. and Mori, H. 1969. A new species of the genus Tetranychopsis Canestrini from Japan (Acarina: Tetranychidae). Ann. Zool. Jap. 42(1):45-48.
- Ehara, S. and Wongsiri, T. 1975. The spider mites of Thailand (Acarina:Tetranychidae) Mushi 48(13):149-185.
- Ehara, S. and Yamada, M. 1968. Description of a new species of Bryobia from Japan (Acarina: Tetranychidae). Ann. Zool. Jap. 41(2):66-69.
- Lo, P.K-C. 1969. Tetranychoid mites infesting special crops in Taiwan. Chung-san Acad. Cult. Ser. 4:43-48.

- Lo, P.K-C. and Hsia, D.N.T. 1968. Tenuipalpid and tetranychid mites infesting citrus in Taiwan, and life history study of the citrus green mite, Schizotetranychus baltazarae Rimando. Bull. Sun Yat-sen Cult. Found. 1:253-274.
- Manson, D.C.M. 1963. Mites of the families Tetranychidae and Tenuipalpidae associated with citrus in South East Asia. *Acarologia* 5(3):351-364.
- Pritchard, A.E. and Baker, E.W. 1955. A revision of the spider mite family Tetranychidae. *Mem. Pac. Coast Ent. Soc.* 2: 1-472.
- Pritchard, A.E. and Keifer, H.H. 1958. Two new species of Bryobia with a revised key to the genus (Acarina: Tetranychidae). *Ann. Ent. Soc. Amer.* 51(5):503-506.
- Rimando, L.C. 1962. Four new species of spider mites of the genera Eotetranychus and Schizotetranychus (Tetranychidae: Acarina). *Philippine Agr.* 45(10):535-544.
- Rimando, L.C. 1962. The tetranychoid mites of the Philippines. *Univ. Philippine Tech. Bull.* 11:1-52.
- Rimando, L.C. 1966. A new subfamily of spider mites with the description of a new genus and two species (Acarina: Tetranychidae: Aponychinae). *Philippine Agr.* 50:105-113.
- Tseng, Y-H. 1974. Systematics and distribution of phytophagous and predatory mites on grapes in Taiwan I. Phytophagous mites. *J. Agr. Ass. China, New Ser.*, 88:56-73.
- Tseng, Y-H. 1975. Systematics and distribution of the phytophagous mites of Taiwan, Part I. A revision of the mite family Tetranychidae, with an illustrated key to genera of the world, *Plant Quarantine Bull.* 10, Bureau of Commodity Inspection and Quarantine, Ministry of Economic Affairs, Republic of China.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(49-52):911-921, 1975

average snow depths measured only 1-2 inches. At midday, showers and thundershowers streamed into areas from Florida and the Carolinas. Light rains were scattered northward to New England and widespread snow sprawled across lower Michigan and the eastern half of the Ohio Valley. In the West, drizzle and fog enveloped the coastal areas from central California northward. The only fair skies to be found reached eastward across southern and central Plateau regions into the lower Plains. A slow moving storm center along the lower Great Lakes region kept the northern tier of the States on lookout at midweek. Snow drifted into parts of Michigan, North Dakota, Montana, and Idaho throughout the day and by evening freezing rain iced the central and lower Great Lakes region. From the Canadian border to Florida, morning temperatures ranged in the 30's and 40's and hovered in the lower teens in the northern Plains. Though winter made a firm grasp on the East and North, it seemed like springtime across the central and southern Plains. In the afternoon, sunny skies warmed areas from the southern Plateau region across the lower Great Plains into western Kentucky and Alabama. In Pueblo, Colorado, balmy 64 degrees put a new record high on the books. A cold front pushing southward through the Plains and eastward across the Great Lakes region on Thursday morning, hailed wintry weather in its path. Morning temperatures behind the front sank into the teens in the northern Plains. During the day, an intrusion of cold air gave rise to 9 varieties of precipitation throughout the interior of the Nation. Snow was scattered from the northern Rockies into western Nebraska and over the northern Plains into parts of Wisconsin, Michigan, and Pennsylvania.

Chilly damp weather persisted across large parts of the country into the evening, though light widespread precipitation caused hazardous traveling conditions in many areas. Elsewhere another frontal system brought adverse weather to parts of the western United States. As a Pacific storm approached the coast, light rain and snow occurred along the western edges of northern California and Oregon. As the weekend approached, a western winter storm was passing over the Intermountain regions and Rockies. Fed by cold air pushing behind a northwest frontal system, the storm deepened in the northern Great Basin area. Friday, rain or snow reached across the mountains from central California through Nevada, Utah, Idaho, and Wyoming. A Cold front moved into Texas, a low pressure center formed in Missouri, and brought low clouds with widespread drizzle and fog to much of the remainder of the Plains, the upper Mississippi Valley, and portions of the Ohio Valley. Cutting its way through the high central Plains, a western storm spread snow from the Pacific Northwest over the Plateau and northern Rockies on Saturday. Behind the snow, arctic air sliding southward tumbled some temperatures to near zero levels--Havre, Montana, 2 degrees. For a warmer note, above normal temperatures spread northward through the Ohio Valley. Precipitation in the area included some locally heavy thunderstorms in Illinois, Indiana, and Michigan. Winter arrived in the Plains on Sunday as cold air pushing southward caused temperatures in Kansas and Iowa to drop 30 degrees or more compared to early morning readings. In portions of the northern Rockies and Plains, temperatures plunged well below zero. Meantime, unseasonably warm weather shattered record high temperatures throughout the middle Mississippi Valley where readings ranged from the 50's to the low 70's.

U.S. DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MARYLAND 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101

