

Pacific Pest Detector News



A Quarterly Newsletter for First Detectors

December 2014 – February 2015

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Pacific Pest Detector News

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Pests in Brief

Asian gypsy moth. This pest is a major problem with a wide range of hosts in forests, natural areas, fruits, vegetables, and ornamentals. On 8 October 2014 the Honolulu Star-Advertiser reported 11 Asian gypsy moth egg masses on board a Taiwanese ship in Honolulu Harbor. The European gypsy moth has damaged millions of acres in the northeastern U.S. over the past two decades. Though the Asian variety is even more voracious, it may be limited to cooler elevations in the Pacific Islands.



Courtesy of J. Ghent, USDA Forest Service, Bugwood.org

Coconut rhinoceros beetle: Update Hawaii.

An adult beetle was found near Diamond Head in mid-October 2014 and another in Mililani shortly after. These are the second and third reports of the beetle outside of the original six-mile buffer zone on the Joint Base Pearl Harbor–Hickam. To date, Hawaii Department of Agriculture reports 2,150 panel traps have been set around Oahu and 95,000 palm trees and 280 mulch sites surveyed. Over 1,000 adult beetles, 1,100 larvae, and 16 pupae have been found on the island and 130 trees removed and destroyed.



Coconut rhinoceros beetle larva

Courtesy M. Schmaedick, American Samoa Community College

NOT WANTED

Asian Gypsy Moth (*Lymantria dispar asiatica*)



Photo by J. Ghent, USDA Forest Service, Bugwood.org



Photo by J. Ghent, USDA Forest Service, Bugwood.org



Photo by M. Mielke, USDA Forest Service, Bugwood.org



Photo by J. Ghent, USDA Forest Service, Bugwood.org

(A, B) Adult Asian gypsy moth (*Lymantria dispar asiatica*). Females have wingspans of about 3.5 in, males 1.5 in. (C) Female Asian gypsy moths (AGM) laying their egg masses and then covering the eggs with fuzz from their abdomens. (D) AGM egg masses are 0.8-1.2 in. long by 0.4-0.8 in. wide and contain 50 to 1,000 eggs.

Origin & Distribution. Asian gypsy moth is endemic to China and far eastern Russia. Established in Korea, Japan, and Europe. There have been more than 20 successful eradications in the U. S. since 1991 and at least one in New Zealand. European gypsy moth is established in the eastern and mid-western U. S.

Likely Locations. Near ports of entry, especially on ships and their cargo. Females fly up to 25 miles and egg masses have been found on trees, walls, logs, outdoor furniture, vehicles, and other objects.



Photo by J. Ghent, USDA Forest Service, Bugwood.org



Photo by J. Ghent, USDA Forest Service, Bugwood.org



Photo by M. Zubrik, Forest Res. Inst., Slovakia, Bugwood.org

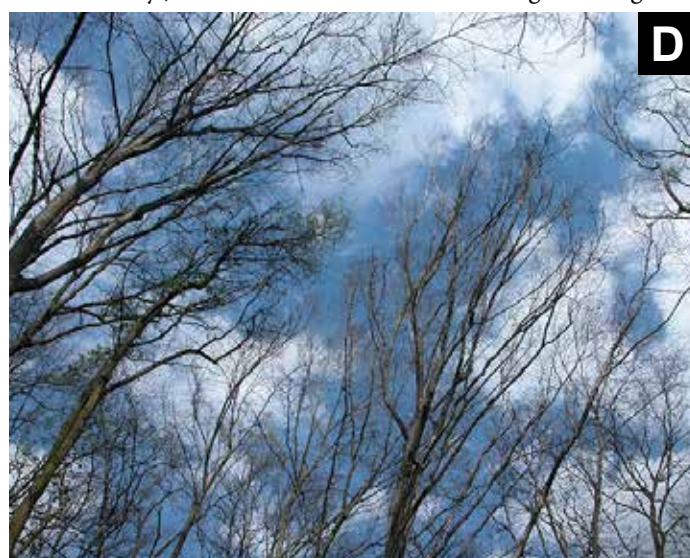


Photo by F. Lakatos, Univ. West Hungary, Bugwood.org

(A) Larvae (caterpillars) are the feeding stage of these insects. (B) Later stages of the larvae (fourth to sixth instars) are 1.6 to 2.4 in. long and have a double row of red and blue knobs on their backs. (C) Pupae are reddish brown and attached to the substrate by thin silk-like strands. (D) Repeated defoliation by gypsy moths weakens trees and often leads to their death.

Hosts. The EGM has a host range of about 250 species and prefers forest habitats. The AGM also prefers forests but attacks over 600 species of plants in forests, orchards, urban areas, and agriculture.

Impact. The EGM defoliates about 700,000 acres of forest per year in the U.S., but has only spread through the eastern part of the country since it arrived in 1869. The AGM, however, has more than twice the host range, the female can fly up to 25 miles, and young caterpillars can be picked up by the wind and “balloon” to new locations on thread-like attachments. Damage from the AGM is expected to be more widespread and severe than from the EGM.

FOR MORE INFORMATION:

CAPS New York: <http://www.agriculture.ny.gov/caps/pdf/Asian%20Gypsy%20Moth%20Pest%20Alert.pdf>
 Plant Health Australia: <http://www.planthealthaustralia.com.au/wp-content/uploads/2013/03/Asian-gypsy-moth-FS-Nursery-and-Garden.pdf>

NOT WANTED

Bagrada Bug/Painted Stink Bug (*Bagrada hilaris*)



Courtesy of G. Arakelian, L.A. Co. Dept. of Agriculture, Bugwood



Courtesy of G. Arakelian, L.A. Co. Dept. of Agriculture, Bugwood



Courtesy of G. Arakelian, L.A. Co. Dept. of Agriculture, Bugwood

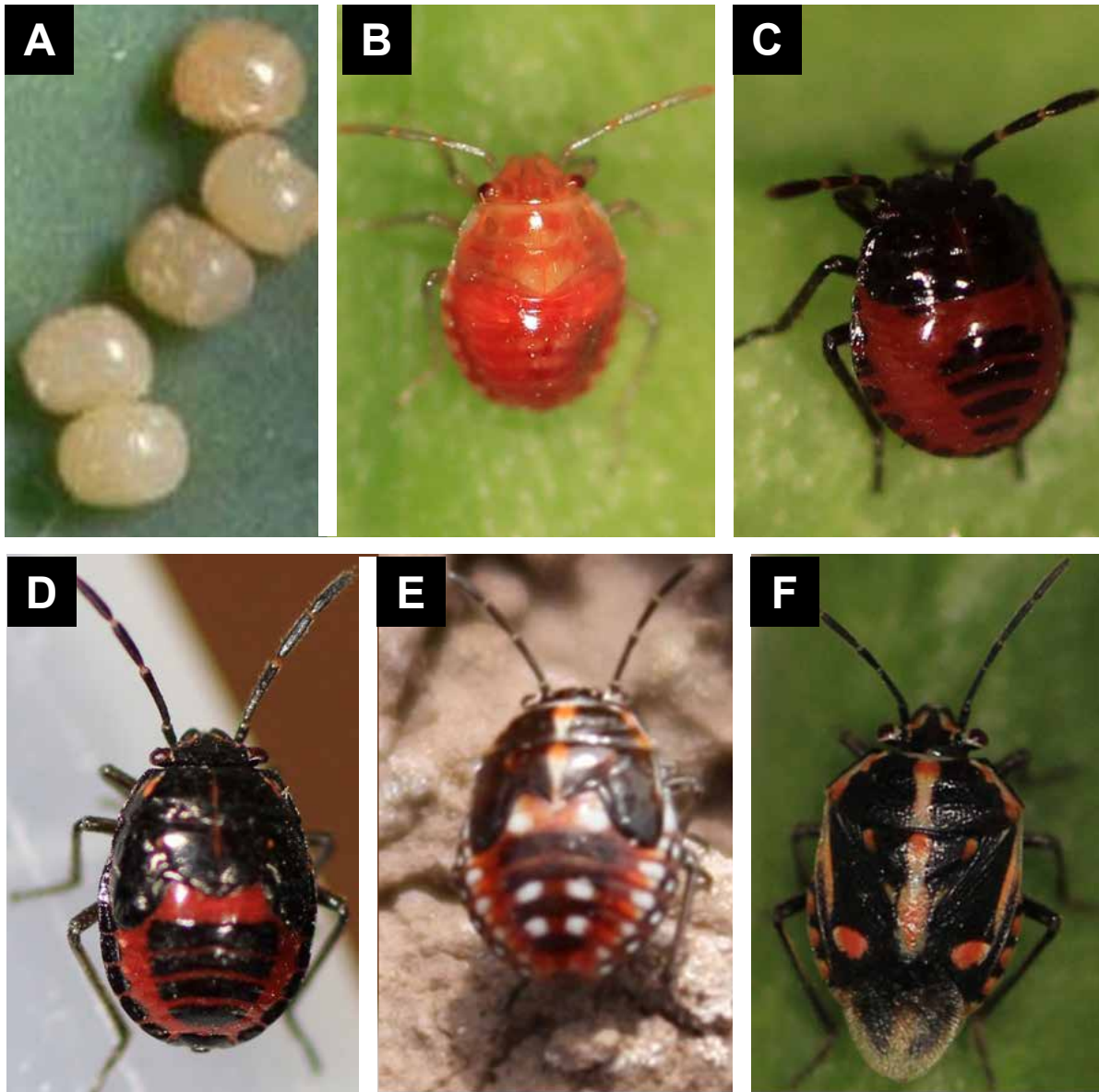


Courtesy of S. Dara, Univ. of California Cooperative Extension

(A) Adult female (left) and male bagrada bugs (*Bagrada hilaris*); female 5-7 x 3-4 mm. . (B, C) The bagrada bug is a sucking insect and causes starburst-like chlorotic (yellowish) areas where it feeds. Heavy feeding can lead to scorching of the leaves and wilting or stunting of the plant. (D) This harlequin bug is sometimes confused with the bagrada bug. It has different markings, however, and is at least twice as long as the bagrada bug—about 10 mm (0.4 in.) compared to 5-7 mm (0.2 in.).

Origin & Distribution. Native to east and southern Africa. Spread to India, Pakistan, parts of South-east Asia, Italy, and Malta. Reported in Southern California in 2008, spread to Arizona, New Mexico, Nevada, Utah, and Texas. Found in a school garden on Maui, Hawaii in October 2014.

Likely Locations. On crops in the mustard family (Brassicaceae). Single eggs or clusters laid in soil under host plants, on undersides of leaves and on stems, and may be found on hairy leaves or stems of non-hosts.



Courtesy of S. Dara, University of California Cooperative Extension

(A) The eggs of the bagrada bug are white, but turn orange to red before hatching. (B–E) The nymph goes through five stages of development (four shown here). They are orangish red when they hatch, but the legs, head, and thorax turn black quickly. (F) An adult *Bagrada hilaris*.

Hosts. Preferred hosts are the Brassicaceae: cabbage, broccoli, cauliflower, mustard, turnip, radish, etc. In the absence of their preferred hosts, however, they will feed on papaya, potato, strawberries, maize, and some legumes and ornamental plants. This insect needs to feed on the brassicas, however, for optimal reproduction.

Impact. The Brassicaceae are major vegetable crops in most areas. The population of this bug can grow rapidly and cause severe reductions in yield due to chlorosis, early leaf drop, stunting, and wilt. Seedlings can be killed by these insects.

FOR MORE INFORMATION:

Featured Creatures http://entnemdept.ufl.edu/creatures/VEG/Bagrada_bug.htm

You Tube Video <http://www.youtube.com/watch?v=gSj3AZoJIRM>

Pests of Concern

ARTHROPODS

Africanized honey bee (*Apis mellifera scutellata*) <http://www.invasivespeciesinfo.gov/animals/afrhonbee.shtml>

Asian citrus psyllid (*Diaphorina citri*) http://cirs.ucr.edu/asian_citrus_psyllid.html

coconut rhinoceros beetle (*Oryctes rhinoceros*) http://www.ctahr.hawaii.edu/adap/ASCC_LandGrant/Dr_Brooks/BrochureNo8.pdf

little fire ant (*Wasmannia auropunctata*) http://flrec.ifas.ufl.edu/entomo/ants/pest%20ants%20of%20fl/little_fire_ant.htm

naio thrips (*Klambothrips myopori*) http://cirs.ucr.edu/pdf/myoporum_thrips_hawaii.pdf

red imported fire ant (*Solenopsis invicta*) http://entnemdept.ufl.edu/creatures/urban/ants/red_imported_fire_ant.htm

red palm weevil (*Rhynchophorus ferrugineus*) http://www.aphis.usda.gov/import_export/plants/manuals/emergency/downloads/nprg-redpalmweevil.pdf

silverleaf whitefly (*Bemisia argentifolii*) http://www.entnemdept.ufl.edu/creatures/veg/leaf/silverleaf_whitefly.htm

varroa mite (*Varroa destructor*) http://entnemdept.ufl.edu/creatures/misc/bees/varroa_mite.htm

DISEASES

banana Xanthomonas wilt (*X. c. pv. musacearum*) <http://apsjournals.apsnet.org/doi/pdf/10.1094/PDIS-93-5-0440>

citrus canker (*Xanthomonas axonopodis*) <http://www.apsnet.org/publications/imageresources/Pages/IW00011a.aspx>

citrus greening (*Candidatus Liberibacter asiaticus*) <http://www.crec.ifas.ufl.edu/extension/greening/index.shtml>

coffee rust (*Hemileia vastatrix*) <http://www.apsnet.org/edcenter/intropp/lessons/fungi/Basidiomycetes/Pages/CoffeeRust.aspx>

downy mildews of corn http://maizedoctor.cimmyt.org/index.php?id=233&option=com_content&task=view

guava rust (*Puccinia psidii*) <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/PD-38.pdf>

iris yellow spot http://aces.nmsu.edu/pubs/_h/H-255.pdf

lethal yellowing of palm (*Candidatus Phytoplasma palmae*) <http://edis.ifas.ufl.edu/pp146>

moko disease of banana (*Ralstonia solanacearum*) http://www.promusa.org/tiki-custom_home.php

Panama disease of banana TR 4 (*Fusarium oxysporum* f.sp. *cubense*, tropical race 4) http://www.agric.wa.gov.au/objtwr/imported_assets/content/pw/ph/dis/fn/fs01200.pdf

papaya ringspot <http://www.apsnet.org/publications/apsnetfeatures/Documents/2004/ControllingPapayaRingspotVirus.pdf>

sudden oak death (*Phytophthora ramorum*) <http://www.suddenoakdeath.org/>

tomato yellow leaf curl <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/PD-70.pdf>

PLANTS

cogon grass (*Imperata cylindrica*) <http://www.issg.org/database/species/ecology.asp?si=16&fr=1&sts=sss&lang=EN>

fireweed (*Senecio madagascariensis*) <http://www.hawaiiinvasivespecies.org/pests/fireweed.html>

fountain grass (*Pennisetum setaceum*) <http://www.nps.gov/plants/alien/fact/pdf/pese1.pdf>

miconia (*Miconia calvescens*) <http://www.hawaiiinvasivespecies.org/pests/miconia.html>

Siam weed (*Chromolaena odorata*) <http://plants.usda.gov/java/profile?symbol=CHOD>

Pests listed in '**BOLD**' are not, to our knowledge, present in the American Affiliated Pacific Islands.

Websites

PEST INFORMATION

American Samoa: http://www2.ctahr.hawaii.edu/adap2/ascc_landgrant/technical_papers.asp#brochures
Bugwood (images): <http://bugwood.org/>
Crop Knowledge Master: <http://www.extento.hawaii.edu/kbase/Crop/crop.htm>
Hawaii Invasive Species Council: <http://dlnr.hawaii.gov/hisc/>
Plant Pono: <http://www.plantpono.org/>
Hawaii Department of Agriculture (new pest advisories): <http://hawaii.gov/hdoa/pi/ppc/new-pest-advisories>
Hawaiian Ecosystems at Risk (Pacific invasive species): <http://www.hear.org/>
Master Gardeners (national pest list): <http://wiki.bugwood.org/npdn-mg-training>
Western Micronesia Regional Invasive Species Council: http://guaminsects.net/gisac/index.php?title=Main_Page

DIAGNOSTIC CLINICS AND DIAGNOSTICIANS

American Samoa Community College, Land Grant: Mark Schmaedick (insects) m.schmaedick@amsamoa.edu (684) 699-1575; Ndeme Atibalentja (plant diseases) n.atibalentja@amsamoa.edu
University of Guam: Robert Schlub (plant diseases) rlschlub@uguam.uog.edu (671) 735-2089; Aubrey Moore (insects) amoore@uguam.uog.edu (671) 735-2141
Hawaii Department of Agriculture: Bernarr Kumashiro (insects) Bernarr.R.Kumashiro@hawaii.gov (808) 973-9534; Mann Ko (plant diseases) Mann.P.Ko@hawaii.gov (808) 973-9546
University of Hawaii at Manoa (diagnostic clinic): Honolulu adsc@ctahr.hawaii.edu, (808) 956-6706 ; Komohana Research Extension Center, Hilo komohana@ctahr.hawaii.edu, (808) 981-5199

ORGANIZATIONS

Guam Department of Agriculture: <http://www.nasda.org/cms/7195/8617/8761.aspx>
National Plant Diagnostic Network <http://www.npdn.org/>
Western Plant Diagnostic Network <https://www.wpdn.org/index.php>
Western Pacific Tropical Research Center (Guam) <http://www.wptrc.org/>

EDUCATION AND TRAINING

Extension Disaster Education Network <http://eden.lsu.edu/Pages/default.aspx>
NPDN First Detector Training Sites: http://www.npdn.org/first_detector
NPDN First Detector Newsletter: <http://www.npdn.org/newsletter>
Protect U.S. invasive species network <http://www.protectingsnow.com/>
WPDN Homepage: <https://www.wpdn.org/index.php>
WPDN and Pacific First Detector Newsletters: <https://www.wpdn.org/newsletters>

IF A LINK IS INOPERABLE, TRY COPYING AND PASTING IT DIRECTLY INTO YOUR BROWSER