

Pacific Pest Detector News

A Quarterly Newsletter for First Detectors



December 2013–
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Pacific Pest Detector News

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Pests in Brief

Kidneyleaf mudplantain. In July 2013, a new aquatic weed was found in a taro lo'i (taro paddy) on the island of Oahu. The mudplantain grows rapidly, forming dense mats that can clog waterways and cause problems for wetland taro farmers. It was probably introduced as an ornamental pond plant. To date, it has not been reported as an invasive plant on the other Hawaiian islands. See Page 2.



2-inch wide kidney-shaped leaves

Photo courtesy of the Hawaii
Department of Agriculture

Coconut termite. A termite that was confined to two small groups of Pacific atolls has spread to Kosrae, in the Federated States of Micronesia. This termite feeds on the wood inside of coconut trees. In the later stages of feeding, even a mild wind can cause the trees to break about 2 m (6 ft) above the soil. The grooves and holes made by these termites on the trunk of coconuts are diagnostic. See the alert on Page 4.



Coconut termite, lateral view
Photo by A. Moore, University of Guam



Dorsal view of a
soldier coconut
termite 8-10 mm
long

Courtesy of G. McCormack, Cook
Is. National Heritage Trust

NOT WANTED

Kidneyleaf Mudplantain

(*Heteranthera reniformis*)



(A) The mudplantain grows 20 to 50 cm (8 to 20 in) tall, usually in fresh water less than 15 cm (6 in) deep. The leaves are kidney-shaped, 5 cm (2 in) wide, dark green, and shiny, on long stems or petioles. They grow above or floating on the surface of the water. (B) Small, unopened, white to light blue flowers. (C) Narrow leaves of seedlings. (D) Stems grow along the soil surface, which is often submerged, and can root at each node. This habit makes it difficult to control the plant mechanically or by hand.

Origin and Distribution. Native to North, Central, and South America. Naturalized in Italy, Spain, and parts of the Southern and Mideastern U.S. Present in Australia and recently discovered in several taro lo'i (wetland taro) on Oahu, Hawaii.

Impact. Competes for nutrients with rice and is known to cause large reductions in yield. Loss of yield in taro lo'i in Hawaii not yet calculated. Growth of this persistent plant can clog shallow streams, ditches, and other waterways and potentially cause flooding.



(A) Drained taro lo'i with a creeping infestation of kidneyleaf mudplantain. (B) Large mat of plants and soil held together by the extensive root system of this invasive plant.

All photos courtesy of the Hawaii Department of Agriculture

Likely Locations. Often introduced as ornamental pond plants. Escaped plants may be found submerged or floating in shallow freshwater areas, such as taro lo'i, streams or ditches, shallow ponds, and other disturbed wetland areas.

For More Information

Australia weed alert http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/467996/Heteranthera-web.pdf
Hawaii pest advisory <http://hdoa.hawaii.gov/pi/files/2013/01/Heteranthera-reniformis.pdf>

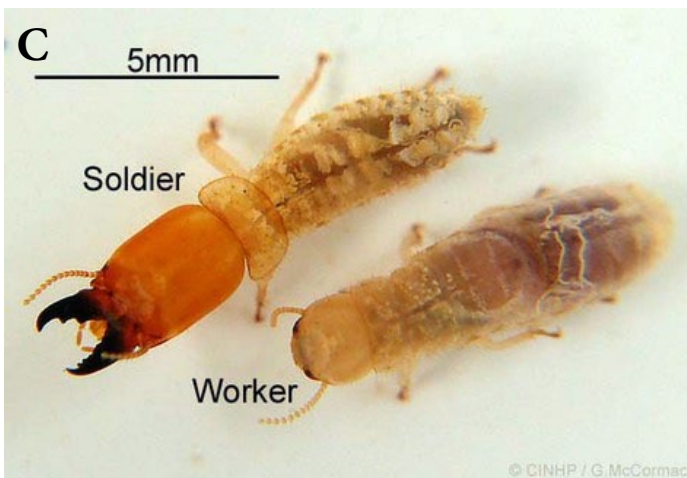
NOT WANTED

Coconut Termite

(*Neotermes rainbowi*)



Photos A and B Courtesy of L. Sigrah, Kosrae Is. Resource Management Authority



Photos C and D Courtesy of G. McCormack, Cook Islands National Heritage Trust

(A) Net-like grooves and small holes made by *Neotermes rainbowi* on the lower portion of a broken coconut palm trunk. The holes and grooves are filled with wood chips and bark mixed with fecal material. (B) The termites feed on the inner wood, creating large cavities that contain feces and debris. Trees are susceptible to stem failure (snapping), even in light winds. (C) Soldier and worker termites. (D) *N. rainbowi* mature and immature alates (winged).

Origin and Distribution. South Pacific atolls of Tuvalu and the northern Cook Is., Kosrae (Federated States of Micronesia)

Host Range. Coconut palm (*Cocos nucifera*) is the only known host, except a report of feeding damage on prop roots of *Pandanus* sp.

Impact. Coconut termites feed on the wood in coconut trunks. The hollowed-out trunks tend to break several meters (~6 ft) above the ground. No loss of nut production from living trees reported.

For More Information

Biocontrol: Pacific Prospects: *N. rainbowi* <http://aciarc.gov.au/files/node/2277/MN020%20part%202.pdf>

Pests of Concern

ARTHROPODS

- Africanized honey bee** (*Apis mellifera scutellata*) <http://www.invasivespeciesinfo.gov/animals/afrhonbee.shtml>
- coconut rhinoceros beetle (*Oryctes rhinoceros*) http://www.ctahr.hawaii.edu/adap/ASCC_LandGrant/Dr_Brooks/BrochureNo8.pdf
- fruit flies (numerous species) http://www.spc.int/pacifly/Country_profiles/Amer_Samoa.htm
- 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://cizr.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/>
- taro vein chlorosis (taro vein chlorosis virus) <http://www.ediblearoids.org/portals/0/taropest/lucidkey/taropest/media/Html/Viruses/TaroVCV/TaroVCV.htm>
- tomato yellow leaf curl <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/PD-70.pdf>

PLANTS

- cogongrass (*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.

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

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 Comm. 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>
Pacific Islands Distance Diagnostics and Recommendation System (PIDDRS): <http://dddi.org/pacific/>
Western Plant Diagnostic Network <https://www.wpdn.org/index.php>
Western Pacific Tropical Research Center (Guam) <http://www.wptrc.org/>
National Plant Diagnostic Network <http://www.npdn.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.protectingusnow.com/>
WPDN Homepage: <https://www.wpdn.org/index.php>
WPDN and Pacific First Detector Newsletters: <https://www.wpdn.org/newsletters>

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