



New Pest Response Guidelines

Red Palm Weevil

Rhynchophorus ferrugineus



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Red Palm Weevil NPRG

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Historical Information

The red palm weevil, a serious pest of palms, is native to Southeast Asia and has spread through the Arabian Gulf. Among palm weevil species, the red palm weevil has spread to the greatest number of countries, probably due to its association with the date palm (*Phoenix dactylifera*), which is propagated by offshoots.

It was detected in Orange County, California in October, 2010.

Economic Impact

Economic pest of coconut, date, oil, and sago palms

Palm sales, 2007

Puerto Rico: \$7.1 million

United States: \$203 million for almost 8000 acres

Florida: \$127 million

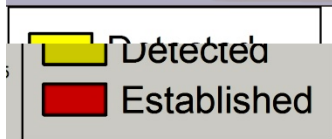
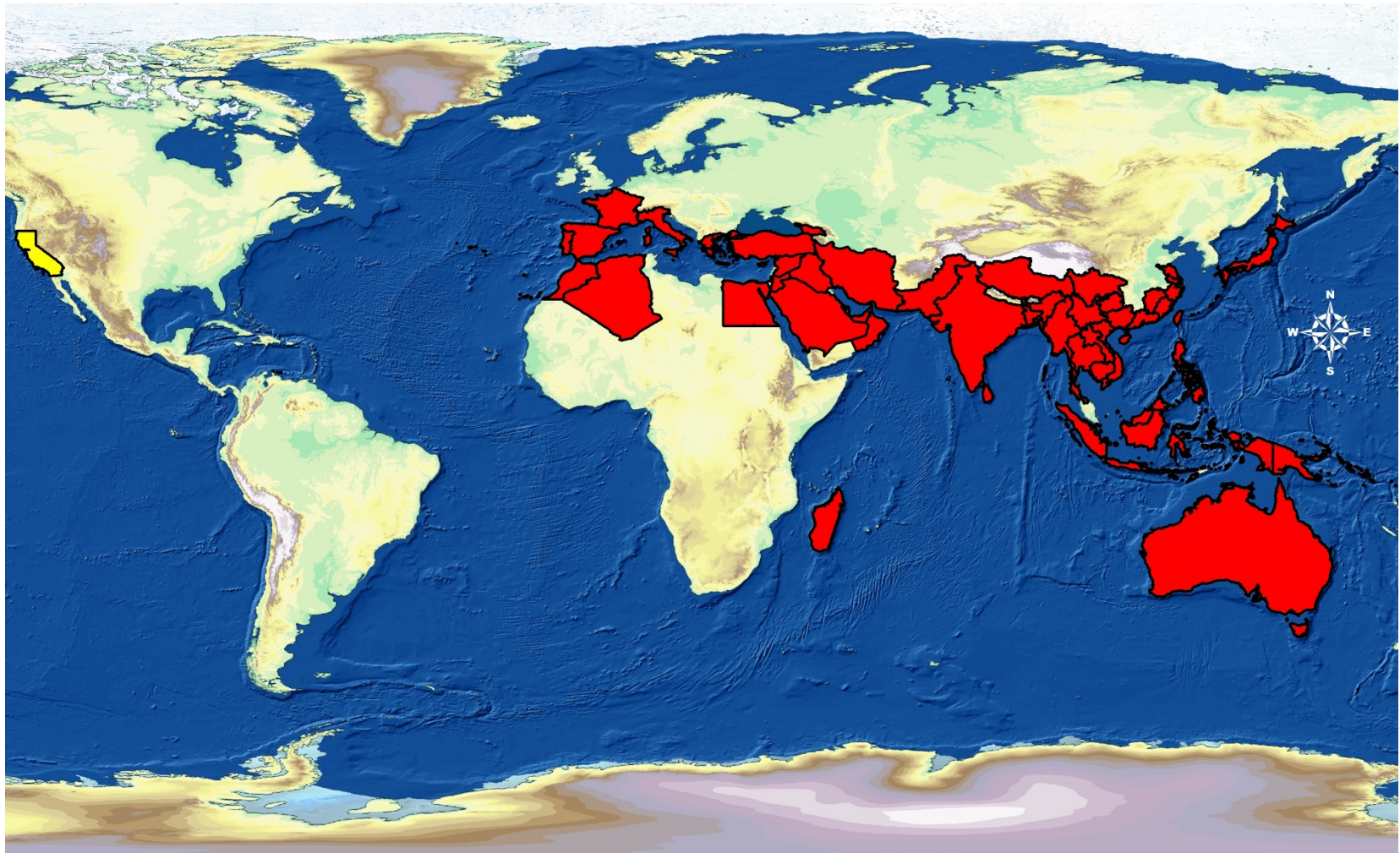
California: \$70 million

Texas: \$3 million

Red palm weevil damage



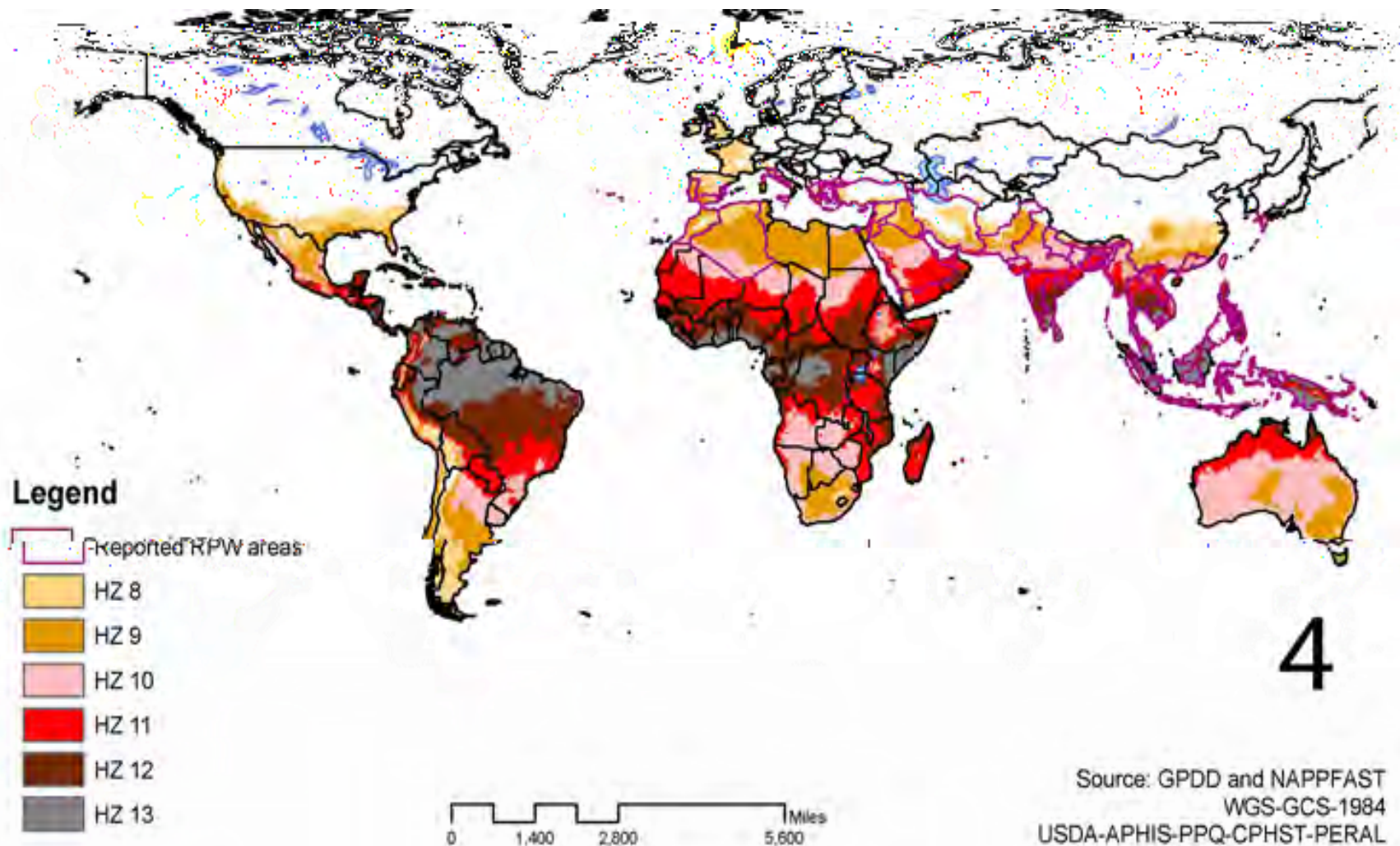
Red Palm Weevil Distribution



10,000 Kilometers

Sources: Alhudaib, 2009; Baldacchino, 2007; Bloem pers. comm., 2011; Borchert, 2009; Bozhua and Hartzler, 2008; CABI, 2009; EPPO, 2007; Murphy and Briscoe, 1999; Pelikh, 2009; Ren, 2011; Soroker et al., 2005
Created By: G. Fowler and K. Kamminga
USDA-APHIS-PPQ-CPHST-PERAL
WGS 1984
February 25, 2011

Potential Distribution of Red Palm Weevil



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Source: GPDD and NAPPFAST
WGS-GCS-1984
USDA-APHIS-PPQ-CPHST-PERAL
Daniel Borchert
4/17/2009



http://www.russellpm-agriculture.com/insect.php?insect_id=119

Eggs: Eggs are light yellow, approximately 2.5 mm long and are oviposited in palm tissue. Hatch in about 3 days.



Mike Lewis, Center for Invasive Species Research, Bugwood.org

5430201

Adult: Red and blackish brown and about 35 mm long. Adults live up to 3 months feeding on palm trees.

Larvae: Whitish-yellow and feed on surrounding palm tissue, moving toward the interior of the palm upon hatching (2-6 months).



Amy Roda

Pupae: Mature larvae pupate in damaged tree tissue. The pupal stage requires about 3 weeks.



Luigi Barraco

Palmetto Weevil Adult



Red Palm Weevil Adult

Thomas, M. 2010. Pest Alert, Giant Palm Weevils of the Genus *Rhynchophorus* (Coleoptera: Curculionidae) and Their Threat to Florida Palms. FDACS, Division of Plant Industry. DACS-P-01682.

Identification for *Rhynchophorus*



1. *R. ferrugineus*;
2. *R. cruentatus*, red and black form
3. *R. cruentatus*, black form
4. *R. palmarum*

1. Pronotum strongly lobed posteriorly (Fig. 4); color black.....*R. palmarum*
— Pronotum evenly curved posteriorly (Fig. 3); color red, red and black, or black
2. Pronotum gradually narrowed anteriorly (Fig. 1).....*R. ferrugineus*
— Pronotum abruptly narrowed anteriorly (Fig. 2).....*R. cruentatus*

Survey

- Pheromone traps
 - Pheromone lure
 - Food source
 - Liquid trap
 - Placed in or near hosts
- Olfaction: Trained dogs detect red palm weevil odor
- Acoustics: Gnawing sound from larval feeding

Bucket traps

- **Outside**

- Rough texture
- Loop on lid
- Or buried in the ground
- Large hole (3cm)

- **Inside**

- Propylene glycol/water mixture to cover the food baits
- Pheromone lure



Control

- Sanitation
 - Shredding
 - Burning
- Insecticides
 - Preventive
 - Curative
- Mass Trapping
- Biological Control
 - Bacteria
 - Parasitoids
 - Nematodes



Pathways

- Natural
- Commerce
 - Cut flowers
 - Plant materials (Palm plants)



Research Needs

Eradication

Control methods

Detection

Education

NPRG Needs

Control methods

Research

Language

Manual updates



Questions?