South American Palm Weevil Invasion in Southern California

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There are ~10 species in *Rhynchophorus*.
Females can lay 58-531 eggs; hatch in 1-6 days.

3-9 larval instars take 25-105 days to develop.

Pupal period is 11–45 days.

Pupal cocoons made from chewed palm fibers.

Life cycle can take 45–139 days.

Adult RPW can live 2-3 months.

Male RPW have a “beard” on rostrum. Females lack this.
External Damage
Internal Damage
Palm Tree Removal is Expensive & Dangerous
Red Ring Nematode

- Adult weevils can spread a nematode that causes red ring disease in palms
- Adults are infected with nematodes and spread them when they defecate or lay eggs
- Uninfected adults acquire nematodes when they feed on palm material infected with nematodes
  - Larvae growing inside infected palms become inoculated and retain nematodes as they develop into adults
- Nematodes don’t develop inside weevils – they feed on palm tissue – the weevils move nematodes from palm to palm
- Nematode infections can kill palms
  - 35-80% palms may be killed in coconut or palm plantations
  - Serious pest of tropical palms
  - 6-20 weeks post infection palms die
  - Little leaf disease symptoms of incipient RRN infection
- Kill off with weevil infestation with insecticides, nematode infection may kill palm in the absence of weevils
- Nematode not recorded from the USA
  - CDFA dissections of 111 weevils failed to detect the nematode

http://entnemdept.ufl.edu/creatures/nematode/red_ring_nematode.htm
What’s Happening in Tijuana?
Palm Mortality Survey in Tijuana

One Day Driving Survey in May 2016 with Cristobal Socha
Flight Mill Studies in KSA with *R. ferrugineus*
Live Palm Movement – Rapid Long Distance Spread?
What’s Happening in San Diego County?

Confirmed Canary Island Palm Mortality from SAPW in SD County
Sweetwater Reserve has Hundreds of Naturalized Canary Islands Date Palms
and lots of SAPW
and Dead Palms

January 2016 (Google Earth)

July 2016

Aug. 2016

Sept. 2016

What’s Being Done?

Sweetwater Reserve with SAPW Traps

300 Healthy Canary Islands Palms

Sweetwater Reserve with SAPW Traps
Drone to Monitor Rate of Palm Death
Has the South American Palm Weevil, Rhynchophorus palmarum, Established in Southern California?

The situation: The South American palm weevil, Rhynchophorus palmarum (Coleoptera: Curculionidae), has a known distribution that includes Mexico, Central and South America, and the Caribbean. Like other species of Rhynchophorus, such as the red palm weevil, R. ferrugineus, and the palm weevil R. robustus, R. palmarum is a destructive palm pest in its native and invaded ranges.

Click Here to Report Infested Palms

Survey responses help southern California scientists collect data on this new pest and document its effects on local palms. Report Infested Palms Here

Feeding by weevil larvae in the crown of palm trees causes significant damage that may result in the death of meristematic tissues. If meristematic tissue is destroyed, it results in the “crown” of the palm dying and this inability to produce new fronds gradually leads...
Report Infested Palms

http://cisr.ucr.edu/palmarum.html
Report Infested Palms
http://cisr.ucr.edu/palmarum.html

South American Palm Weevil Survey
Survey responses help southern California scientists collect data on the new pest and document its effects on local palms.

Date Observed

Your Name

Your Email Address

Your Phone

Street Address of Infested Palm (No. & Name)

City with Infested Palm

County with Infested Palm

GPS Longitude (optional)

GPS Latitude (Optional)

Observations/Notes

File Upload

Submit
Field Trip to See Infested Palms

10 minute walk from eastern staging area on Willow Road (opposite Sweetwater Road)

Bonita Valley Community Church
4744 Bonita Road