

Palm Leaf Skeletonizer

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Left: leaf damage
Above: waste material (frass)
Below: larva - up to ½ in.
Right: adult moth- ½ in.



Both home landscapers and nursery growers occasionally encounter this insect pest on palm fronds. This fact sheet will describe what is known about their life history and management suggestions for reducing the impact of their feeding damage.

Trade names, where used, are given for the purpose of providing specific information. They do not constitute an endorsement or guarantee of products named, nor does it imply criticism of products not named. **Read and follow all pesticide label instructions.** The Florida Cooperative Extension Service - Institute of Food and Agricultural Sciences is an equal opportunity/affirmative action employer authorized to provide research, educational information, and other services to individuals and institutions that function without regard to race, color, sex, age, handicap, or national origin. Florida Cooperative Extension Service / IFAS / University of Florida. Millie Ferrer-Chancy, Interim Dean. Date of Publication August 2010.

The palm-leaf skeletonizer is a moth, the larvae of which feed on many varieties of palms. As many as 78 species of palms are known to be hosts of this insect, which feeds only on palms. A study in 1995 showed that damage by this insect to coconut palms (*Cocos nucifera*) had been particularly severe.

The caterpillars form dark tube-like structures on the underside of the leaf and eat leaf sections between veins. The resulting damage looks much like a leaf "skeleton."

The most common palm leaf skeletonizer in this area is *Homaledra sabalella*. They range throughout Florida and into other southeastern states, and are also known in Caribbean counties. There are other closely related species and the taxonomy and ranges of these insects is still under investigation.

The caterpillars of this small moth feed on the upper and lower leaf surfaces of many palms, producing large quantities of "frass" (brown fibrous excrement) that is often the first conspicuous sign of an infestation.

The tissue between the veins or ribs is usually their preferred food, but they will also feed on the leaf stems, disrupting the vascular tissue and causing the death of the entire leaf.



The palm leaf skeletonizer is detected by tiny brown fecal pellets incorporated in a silk web on the palm fronds. These pellets look like fine sawdust and are found on the underside of leaves or where they have been woven together. Removing the web reveals creamy-white caterpillars up to 5/8" long with eight faint reddish-brown lengthwise stripes. The caterpillars feed on the surface only.

The tiny moths have a 5/8" wingspan and are inconspicuous. The moth deposits eggs on the unfolding fronds. The larvae are

gregarious and create large longitudinal mines. Pupation occurs on the leaf and there are several generations each year. Palm leafminers occur primarily in the summer and fall months. Successive generations appear throughout warm season.

Management:

For **homeowners**, the best control for this pest is to detect its presence early. Washing the larva and its tubes off with a wet sponge or high-pressure hose may prevent further damage.

For **commercial growers and landscapers**, the following information may be of value in choosing the correct Integrated Pest Management options; please contact his office for assistance with selecting specific pesticide products:

Chemical: Topical treatment with **bifenthrin** killed insets in laboratory and often effective on individual palms in field, but results were uneven, possibly because frass tubes protected the larva. A root drench with **imidacloprid** resulted in only a slight reduction in damage on coconut palms, possibly because it is translocated to new growth [i.e. this insect feeds on older fronds]. Biweekly applications of **azadirachtin** only reduced populations by 50%; therefore, this control method is insufficient to justify the effort.

Physical: **Removal and burning** of effected fronds may be helpful if infestations are noticed early and the infestation has not spread in the area. **Washing** off the larva and their frass with a wet sponge or blasting with a spray of water may he helpful, especially if the palm species has stiff fronds.

Biological: Some parasitoids and parasites of this pest are known to attack the larva, including a predacious beetle and a tachinid fly. They are not known to be available commercially.

General UF/IFAS **pesticide recommendations for ornamental caterpillars** can be found in the following publication:

Buss, Eileen A. and Mayfield, Albert E. *Caterpillars that Defoliate Trees and Shrubs*. [ENY-353] Gainesville: UF/IFAS Extension Service, June 2006.
<http://edis.ifas.ufl.edu/in628>

Other References:

Fasulo, Tom. Palm Leafskeletonizer Damage. In: *Woodybug Website*. Gainesville: UF/IFAS Extension Service, 2010. <http://entnemdept.ifas.ufl.edu/fasulo/woodypest/357.htm>

Howard, F.W. *Host Preferences of the Palm Leaf Skeletonizer*. Fort Lauderdale: UF/IFAS REC *Tropicline*, Volume 9, Number 1, July-September, 1996. http://flrec.ifas.ufl.edu/pdfs/TropicLine/TropicLine_09-1.pdf

Howard, Forrest W. and Abreu, Edwin. *Palm Leaf Skeletonizer, Homaledra sabalella* (Lepidoptera: Coleophoridae): Status and Potential Pest Management Options. Lake Alfred: Proceedings of the Florida State Horticultural Society (FSHS) Vol. 120:356-359, 2007. (Readers can contact this office to receive a copy of this off-line document.)

Martin, Kirk W. & Thomas, Denise D. *Important Insect Plant Pests and their Hosts in Florida* [PowerPoint presentation]. Gainesville: UF/IFAS Plant Medicine Program. 2005.
http://ipm.ifas.ufl.edu/Pest_ID/FL_AG_Pests/files/FL_AG_Pests_trees.ppsx

Meerow, Alan W. *Pests and Other Problems of Palms* [ENH859]. Gainesville: UF/IFAS Extension Service, June, 2004. http://sfrc.ufl.edu/urbanforestry/Resources/PDF%20downloads/Pest_Problem_Palms_2004.pdf

Meerow, Alan W. and Weissling, Thomas J. *Pests of Palms In Florida and the Caribbean Region* [slide set, slides 16-17]. Fort Lauderdale: UF/IFAS. 1998. <http://flrec.ifas.ufl.edu/pdfs/PestsOfPalmsInFlorida.pdf>

Ruppert, P.F., Habeck, D.H., Short, D.E. and Castner, J.L. *Caterpillars of Ornamental Plants Sheet #1* [SP152]. Gainesville: UF/IFAS Extension Service, June, 2005. <http://edis.ifas.ufl.edu/pdffiles/IN/IN03300.pdf>

Wichman, Tom. *Palm-Leaf Skeletonizer* – Gardening in a Minute. UF Master Gardener Program. July, 2009.
http://www.gardeningsolutions.ifas.ufl.edu/giam/problems/diseases_and_pests/palm_skeleton.html