

Caterpillar Pests of Tiki Huts and Other Thatched Structures¹

Stephen H. Brown and Lyle J. Buss²

Tiki Huts and Chickees

“Tiki” is a Polynesian word adapted into the English language to connote the wall-less thatched structures that Seminole and Miccosukee Native Americans built. Thatch is dried undecomposed plant material. “Chickee” is a Seminole word for houses enclosed by thatched roofs and walls. In Florida, the thatched material is taken from the cut leaves of living sabal palms (*Sabal palmetto*), also known as cabbage palms. In various parts of the Americas, sabal and other palm species are sometimes used to construct huts and other structures. In this publication, “tiki hut” is used to indicate structures, including chickees, constructed mostly from the leaves of sabal palms.

Tiki Hut Caterpillars and Their Damage

Two species of caterpillars are known to feed on dried thatched leaves of sabal palms. *Hypsopygia nostralis* (Guenée) is a snout moth in the family Pyralidae. *Simplicia cornicalis* (Fabricius) is a litter moth of the Erebididae family. Due to their association with palm thatch roofs, both species have been called tiki hut caterpillars. Their feeding can cause considerable damage to tiki huts, sometimes necessitating the removal of part or all of an affected roof. In some cases, synthetic roofs have become an alternative to thatched roofs.



Figure 1. Tiki hut.

Credits: Stephen H. Brown, UF/IFAS

Hypsopygia nostralis Distribution

Hypsopygia nostralis, formerly *Ocrasa nostralis* (Scholtens and Solis 2015), is known by several common names, including the clover hayworm, southern hayworm and peanut hay moth. Larvae are known to feed on hay of perennial peanut, bermudagrass, and alfalfa. It occurs from the southeastern United States to Uruguay. In South America it has been found feeding on withered, dried and fallen leaves and on roofs made of palm thatch. In 2014, it was discovered feeding on the leaves of a tiki hut in Lee County, Florida. Larvae pupate in a silken cocoon near the larval feeding site.

1. This document is ENY995, one of a series of the Entomology and Nematology Department, UF/IFAS Extension. Original publication date May 2018. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. Stephen H. Brown, UF/IFAS Extension agent in horticulture, UF/IFAS Extension Lee County; and Lyle J. Buss, senior biological scientist, Department of Entomology and Nematology, UF/IFAS Insect Identification Laboratory; UF/IFAS Extension, Gainesville, FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

Hypsopygia nostralis Caterpillars

The caterpillars have fewer distinguishing characteristics than *S. cornicalis*. They have a dark brown body and a dark reddish-brown head, and their hairs are longer than in *Simplicia*. The caterpillars are about 20 mm ($\frac{3}{4}$ inch) long when full grown.



Figure 2. *Hypsopygia nostralis* caterpillar collected from a tiki hut in Florida.

Credits: Lyle Buss, UF/IFAS

Simplicia cornicalis Distribution

Simplicia cornicalis was first documented in central Florida in 2004 and by 2014 had been found in Lee County, south Florida. The species is known throughout Southeast and East Asia, from India to Southern Japan, to Australia and New Guinea, as well as from Hawaii and the South Pacific Islands. It is a cold-tolerant tropical species found as far north as Gainesville, Florida, and west to southern Louisiana, both areas frequented by winter frosts. It has been collected in Texas since 2013. Its eventual spread throughout the Southeast, Mexico, and Central America is possible. Florida Department of Agriculture and Consumer Services, Division of Plant Industry (FDACS–DPI) has specimens from Alachua, Broward, Collier, Duval, Hillsborough, Lake, Lee, Levy, Marion, Miami-Dade, Monroe, Nassau, Palm Beach, and Volusia counties.

Simplicia cornicalis Caterpillars

The caterpillars have a brown body with dark stripes running lengthwise down the body. Hairs on the body are very short and inconspicuous, and they arise from small, dark bumps. The head capsule has a netlike pattern with narrow dark lines surrounding lighter brown blocks. Similar in size to *Hypsopygia nostralis*, they are about 20 mm ($\frac{3}{4}$ inch) long when full grown.



Figure 3. *Simplicia cornicalis* caterpillars and pupa collected from a tiki hut in Florida.

Credits: Lyle Buss, UF/IFAS



Figure 4. The head capsule of *Simplicia cornicalis* with characteristic netlike pattern.

Credits: Lyle Buss, UF/IFAS

Adult Moths

The adult moths of both species are similar in appearance. *Hypsopygia nostralis* has forewings 8 to 11 mm ($\frac{5}{16}$ – $\frac{7}{16}$ inches) long, and *S. cornicalis* has forewings 10 to 13 mm ($\frac{3}{8}$ – $\frac{1}{2}$ inches) long. The hind wings of *H. nostralis* have lines near the wing base, whereas *S. cornicalis* has a yellow line near the margin. Males of *S. cornicalis* have a tufted knot near the base of the antenna. The antennae of the females are without tufts.



Figure 5. Female *Hypsopygia nostralis* moth collected from a tiki hut in Florida.

Credits: Lyle Buss, UF/IFAS



Figure 6. Pinned female *Hypsopygia nostralis* moth collected from a tiki hut in Florida.

Credits: Lyle Buss, UF/IFAS



Figure 7. Male *Simplicia cornicalis* moth, collected from a tiki hut in Florida.

Credits: Lyle Buss, UF/IFAS



Figure 8. Pinned *Simplicia cornicalis* moth, collected from a tiki hut in Florida. The tufts near the base of each antenna indicate it is a male.

Credits: Lyle Buss, UF/IFAS

What to Look For

Simplicia cornicalis is more commonly found feeding on the thatch of tiki huts than *H. nostralis*. Palm debris and thatch seem to be the favorite food of *S. cornicalis*, but *H. nostralis* can be found on many other dried food sources. Below are details of what we know of the feeding habits of *S. cornicalis*.

- The caterpillars have not been found on living or dead leaves attached to sabal palms.
- The adult moths deposit their eggs on thatched roofs.
- Caterpillars have been found feeding as soon as two to three weeks after the roofs are thatched.
- Infestations can apparently occur on leaves cut and thatched within the previous six months.
- During the day, the caterpillars conceal themselves among the layers of thatched leaves, which must be searched thoroughly to detect the caterpillars.
- After dark, they emerge from the thatch and feed on the dried thatch on the surface of the roofs.
- Feeding holes and frass from the caterpillars are clearly visible on the layers of thatch.
- The caterpillars are food for frogs, lizards, and birds.

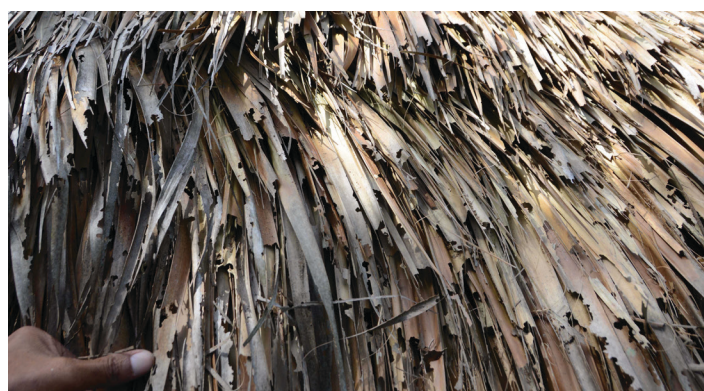


Figure 9. Damage caused by *Simplicia cornicalis*.

Credits: Stephen H. Brown, UF/IFAS



Figure 10. Caterpillar and frass of *Simplicia cornicalis*.

Credits: Stephen H. Brown, UF/IFAS

What to Do

The most effective management strategies are still being worked out, but below is what is recommended.

- For tiki hut builders, pyrethroids such as Scimitar, Talstar, Tempo, or products containing Bifenthrin should stave off the caterpillars. Apply by spraying both sides of the fronds before assembling the roof.
- For infested roofs, apply a *B.t.* (*Bacillus thuringiensis*) product or spinosad to the top of the roof. This is best done at dusk when the caterpillars are emerging from between layers of the thatch to feed.
- Getting the products to the caterpillars inside the layer of thatch may be difficult. Use a concentrated spray for greater efficiency.
- Fumigation is allowed but only by a licensed Florida pest control company.
- Read the product labels to ensure that they are registered for this kind of use.
- Read, understand, and follow label directions. *The label is the law.*
- Once correctly controlled by a spray program, roof re-infestation by tiki hut caterpillars is not likely.

References

Dickel, T.S., V.A. Brou, Jr., and J.B. Heppner. 2010. New North American Records of the Asian Species, *Simplicia cornicalis*, in Florida and Louisiana (Lepidoptera: Noctuidae: Herminiinae). *Lepidoptera Novae*, Vol 3. No. 1. P. 53–56. Gainesville, Florida 32614 <http://www.lsuinsects.org/people/vernonbrou/pdf/2010%20%20215%20%20New%20North%20American%20records%20%20Simplicia%20cornicalis%20in%20Florida%20and%20Louisiana.pdf>

Lafontaine, J.D., and B.C. Schmidt. 2010. Annotated check list of the Noctuoidea (Insecta, Lepidoptera) of North America north of Mexico. *ZooKeys* 40: 1–239. doi:10.3897/zookeys.40.414

Scholtens, B.G. and M.A. Solis. 2015. Annotated check list of the Pyraloidea (Lepidoptera) of America North of Mexico. *ZooKeys* 535: 1–136. doi:10.3897/zookeys.535.6086

Swamiappan, M., and M. Balasubramanian. 1979. *Simplicia caeneusalis* Wlk. (Noctuidae) as a pest of dry palm leaves used in thatched sheds in Tamil Nadu. *The Journal of the Bombay Natural History Society* 76: 538–539. <https://www.biodiversitylibrary.org/item/187445#page/594/mode/1up>

Vargo, J. 2007. *Simplicia cornicalis*. Mississippi Entomological Museum at Mississippi State University, Meridian, Mississippi <http://mothphotographersgroup.msstate.edu/species.php?hodes=8339.1>