

PEST ALERT

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A *Pulvinaria* sp. with morphological similarities to *P. bambusicola* (Tang), (Hemiptera: Coccothraupidae): A potential pest of Florida sugarcane

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INTRODUCTION: A sugarcane sample was collected by Jake M. Farnum (FDACS-DPI) (E2017-3132-1) in Homestead, Miami-Dade County, Florida, after noticing specimens of the pink sugarcane mealybug *Saccharicoccus sacchari* (Cockerell) at the base of the leaf sheaths and nodes. Species determination was finalized on March 22, 2018. Examination of slide-mounted specimens revealed not only the mealybug but also two specimens of a soft scale in the genus *Pulvinaria*. Six species of *Pulvinaria* occur in Florida: *P. acericola* (Walsh & Riley), *P. elongata* Newstead, *P. ericicola* McConnell, *P. hydrangea* Steinweden, *P. psidii* Maskell, and *P. urticae* (Cockerell) (García Morales et al., 2016), but none are similar to the unidentified specimens. After careful examination of the material in the collections and libraries of both the Smithsonian's collection of scale insects in Beltsville, Maryland and the Division of Plant Industry (DPI) in Gainesville Florida, it was determined that this new soft scale is very similar to an obscure Chinese species, *P. bambusicola* (Tang). In Florida, sugarcane is an important agricultural crop that is grown for the production of sugar, molasses and cellulosic ethanol.

DESCRIPTION: Adult females are oval in shape and about 5.0 mm long and 3.5 mm wide (Fig. 1a). The body of the adult is white, without an obvious ovisac. Of the five grass-infesting species of *Pulvinaria*, only *P. bambusicola* and this newly unidentified *Pulvinaria* sp. nr. *bambusicola* have the following combination of characters (characters given in parentheses are those of the other four species): dorsal submarginal tubercles present (absent); without dorsal tubular ducts (absent in *P. elongata* and *P. tenuivalvata*, present in *P. iceryi* and *P. sorghicola*); claw short and thick (long and thin in *P. elongata*, *P. iceryi*, and *P. tenuivalvata*, intermediate in *P. sorghicola*) (Fig. 1c); club of claw digitules nearly as wide as base of claw (about half as wide as base of claw, or less than half as wide); without a denticle on claw (present in *P. elongata*, *P. tenuivalvata*, and *P. sorghicola*, absent in *P. iceryi*) (Fig. 1c); most multilocular pores with 10 loculi (with 7 or 8 in *P. elongata*, *P. iceryi*, and *P. tenuivalvata*, 10 in *P. sorghicola*) (Fig. 1b); dorsal setae not lanceolate (lanceolate) (Fig. 1b). The only obvious morphological difference between *P. bambusicola* and this new *Pulvinaria* sp. nr. *bambusicola* is that the former apparently lacks tubular ducts between the meso- and metathoracic legs and the latter has large-sized ducts in this area (Figs. 1e, 1f). Another difference between these apparent species is that *P. bambusicola* occurs on bamboo and this new *Pulvinaria* sp. nr. *bambusicola* occurs on sugarcane. We have tried to locate specimens of *P. bambusicola* in China, but have been unsuccessful. Therefore, the only information that we have about the species has been gleaned from the original description (Tang, 1991). The two slide-mounted specimens in the DPI collection have been examined by Dr. Greg Evans (USDA-APHIS), Dr. Scott Schneider (USDA-SEL), and Dr. Ian Stocks (USDA-APHIS) and they concur with our conclusion of calling it *Pulvinaria* sp. nr. *bambusicola* at this stage.

HOST PLANTS: The host plant of *Pulvinaria* sp. nr. *bambusicola* is sugarcane, *Saccharum officinarum* L. Grass-infesting *Pulvinaria* species are generally restricted to feeding on various genera in the family Poaceae. *Pulvinaria bambusicola* is known only from bamboo; *P. elongata* is reported from six grass genera and two incidental hosts; *P. iceryi* is reported on 10 grass genera and one incidental host; *P. sorghicola* is known only from sorghum; and *P. tenuivalvata* is known from eight grass genera (García Morales et al., 2016).



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DAMAGE: This new *Pulvinaria* sp. nr. *bambusicola* is likely an invasive species in Florida and could develop high populations causing economic damage without natural enemies present in the environment. Three species of grass-infesting *Pulvinaria* have been reported to cause economic damage. *Pulvinaria tenuivalvata* has caused serious damage to sugarcane in Egypt (Ghabbour and Hodgson, 2002); *Pulvinaria elongata* has been reported as a minor pest of sugarcane, and *P. iceryi* has been reported to cause serious damage to sugarcane in Mauritius (Williams, 1982). At this time, photos of the pest damage are not available. Updates will be applied as they are available.

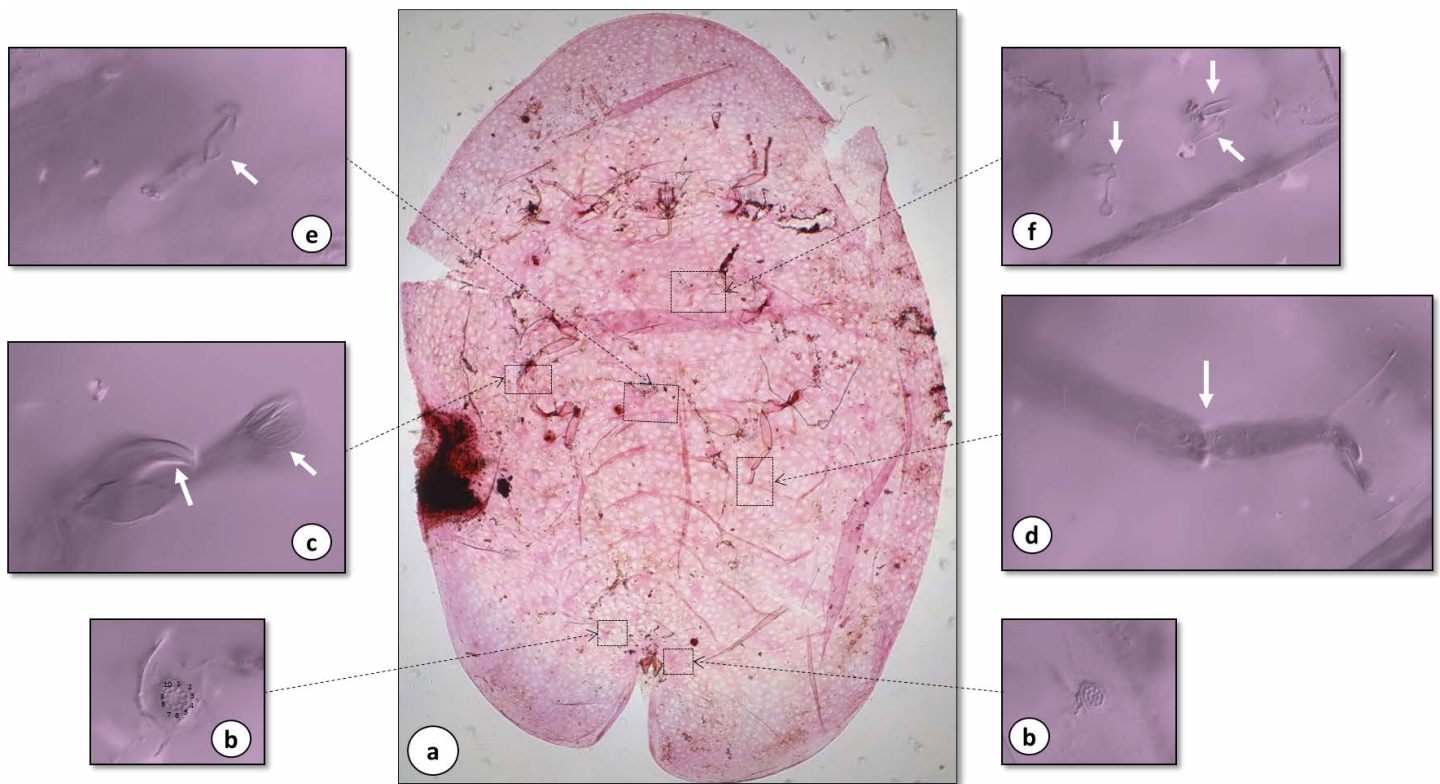
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Pulvinaria sp. nr. *bambusicola* and its diagnostic characters.

Fig. 1a Slide-mounted view of adult female (5X view).

Fig. 1b. Multilocular pores with 10 loculi (100X).

Fig. 1c. Claw short and thick without a denticle and club of claw digitules nearly as wide as base of claw (100X) .

Fig. 1d. Tibio-tarsal articulation (40X).

Figs. 1e and 1f. Tubular ducts between the meso- and metathoracic legs (100X).

Photograph courtesy of Douglass R. Miller and Muhammad Z. Ahmed, FDACS-DPI.