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BAMBUSAE (HEMIPTERA: COCCOIDEA:  
PSEUDOCOCCIDAE), ON BAMBOO IN FLORIDA**

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Source: Florida Entomologist, 87(3) : 396-397

Published By: Florida Entomological Society

URL: [https://doi.org/10.1653/0015-4040\(2004\)087\[0396:NISOMP\]2.0.CO;2](https://doi.org/10.1653/0015-4040(2004)087[0396:NISOMP]2.0.CO;2)

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## NEW INVASIVE SPECIES OF MEALYBUGS, *PALMICULTOR LUMPURENSIS* AND *CHAETOCOCCUS BAMBUSAE* (HEMIPTERA: COCCOIDEA: PSEUDOCOCCIDAE), ON BAMBOO IN FLORIDA

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Homeowners, theme parks, botanical gardens, and water gardens utilize bamboo as an ornamental planting in the Southeastern United States. Nurserymen and collectors acquire bamboo cuttings from various regions, including the Orient, which can be infested with exotic pest insects. Unfortunately, immature and adult pests beneath nodal regions and sheaths, and on the roots of a bamboo plant may be difficult for plant inspectors to detect. Two bamboo mealybugs *Palmicultor lumpurensis* (Takahashi) (Hemiptera: Pseudococcidae) and *Chaetococcus bambusae* (Maskell) which feed underneath leaf sheaths on the bamboo stalks recently invaded Florida.

While over 30 species of mealybugs are known to occur on bamboo worldwide, few species have been reported in the United States. The most commonly reported is the noxious bamboo mealybug, *Antonina pretiosa* Ferris, an established invasive species that is considered a minor pest of bamboo with aesthetics being affected more so than actual plant damage (Miller et al. 2002). The adults are legless, generally located at the nodal regions of various bamboo species and fairly easy to detect due to the presence of sooty mold and long, white, tapering wax filaments emerging from nodal regions. *Chaetococcus bambusae* (Fig. 1) is an obscure mealybug that first was introduced in Florida during 1956 and subsequently eradicated. However, a small population was able to establish at Coral Gables, Florida in 1998. Adults of this mealybug are legless and generally found beneath the sheaths of their bamboo hosts. The infestation at Coral Gables went unnoticed until the mealybugs were exposed by removal of older leaf sheaths by grounds workers. This population did not induce significant economic damage to stands of bamboo at the infestation site. Subsequent populations were found in Miami and Orange County, Florida.

In 2002, *P. lumpurensis* was introduced in the United States at Lake Buena Vista, Florida (Hodges 2002). Bamboo (*Bambusa oldhammi* Munro) at the site of infestation displayed signs of obvious mealybug contamination with large quantities of white wax on new bamboo shoots and beneath the leaf sheaths. Subsequent surveys revealed additional populations on stands of *B. olehammi* and an *Arundinaria* sp. in Orange County and Seminole County. Level of infestation ranged from

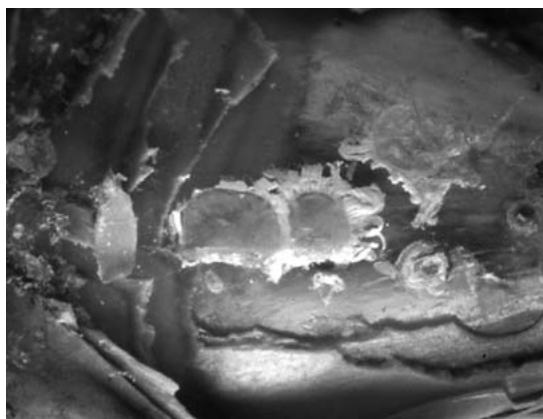


Fig. 1. *Chaetococcus bambusae* adults on bamboo.

slight to severe and is probably indicative of the amount of time the mealybugs had been present within the individual stands. Unlike the noxious bamboo mealybug and *C. bambusae*, this mealybug does cause considerable damage to the host plant. New bamboo shoots are aborted from heavy populations of this mealybug. Severe infestations potentially could kill stands of bamboo.

The biology of *P. lumpurensis* is poorly known. Only a brief taxonomic and host description of *P. lumpurensis* was documented by Takahashi (1950) and Ben Dov (1994), respectively. The adults and immatures of this mealybug are grayish-pink, lack lateral wax filaments and are covered by a fine, white mealy wax (Fig. 2). This mealybug superficially resembles both the pink hibiscus mealybug (*Maconellicoccus hirsutus* (Green)) and the sugarcane mealybug (*Saccharicoccus sacchari* Cockerell). Although the pink hibiscus mealybug does not occur on bamboo, the sugarcane mealybug occasionally has been reported on bamboo within Florida. Adult females of *Palmicultor lumpurensis* mounted on slides are distinguished from these species by having 14-17 pairs of cerarii in contrast to 4-6 pairs in pink hibiscus mealybug and 1 pair in sugarcane mealybug.

### SUMMARY

*Palmicultor lumpurensis* and *C. bambusae* have become established in Florida. The potential

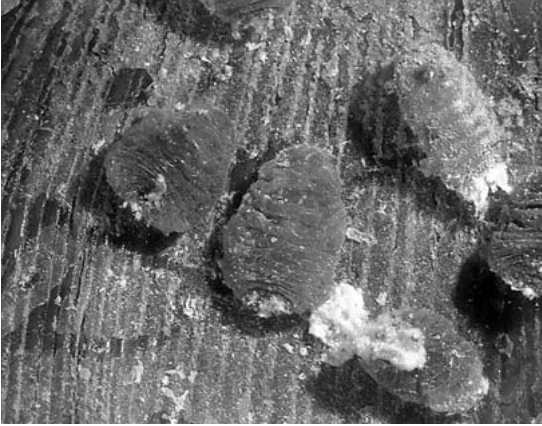


Fig. 2. *Palmicultor lumpurensis* adults on bamboo.

economic impact of these invasive species for Florida's bamboo is not yet known. Monitoring of populations from each of these invasive species

will be important for the native bamboo species, *Arundinaria gigantea* Walter, and for ornamental bamboo stands.

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