CIRCULAR

FDACS-P-02278
Issue No. 446 | May 2026

Florida Department of Agriculture and Consumer Services
Division of Plant Industry

Antonina nakaharai Williams and Miller (Hemiptera: Pseudococcidae), a bamboo mealybug intercepted in north central Florida

Zachary Lahey, Ph.D., Erin C. Powell, Ph.D. and Douglass R. Miller, Ph.D.,
Bureau of Entomology, Nematology and Plant Pathology
DPIHelpline@FDACS.gov or 1-888-397-1517

INTRODUCTION

In November 2025, mealybug specimens on potted black bamboo, *Phyllostachys nigra* (Lodd. ex Lindl.) Munro. (Poaceae), originating from a nursery in Hawthorne, Florida, were submitted to FDACS-DPI for identification (11072025-11554). These mealybugs were subsequently slide-mounted and determined to be *Antonina nakaharai* Williams and Miller, a species that feeds exclusively on bamboos (reviewed by García Morales et al. 2016). Like other members of its genus, *A. nakaharai* is probably of Asian origin, first described from Maryland but subsequently recorded from Azerbaijan, China, Republic of Georgia, Japan, Russia, South Korea, Taiwan, several states in the eastern USA (LA, MD, NJ, SC and TX) and Hawaii (Gavrilov-Zimin 2003; Williams and Miller 2002; Wu et al. 2012). Examination of undetermined specimens of *Antonina* Signoret in the Florida State Collection of Arthropods uncovered three additional collections of *A. nakaharai* that predate the most recent submission. One of those collections was made from an undetermined species of *Bambusa* Schreb. at a nursery in Oviedo (Seminole County) in 2012 (E2012-692-1). The remaining two collections were made from *Bambusa multiplex* (Lour.) Raeusch. Ex Schult.f. and an undetermined genus of bamboo in the environs of Gainesville (Lake Alice, Alachua County) in 1988 and Scottsmoor (Brevard County) in 1992, respectively. Although the latter two discoveries may suggest establishment in the Florida landscape, more research is needed to determine the extent of this mealybug's distribution and whether it can truly be considered a part of Florida's mealybug fauna.

SURVEY AND IDENTIFICATION

This bamboo mealybug species settles to feed in the intranodal region where new branches arise from the node (Fig. 1a) and under the leaf bracts (Fig. 1b). Adult females of *A. nakaharai* are about 1.4–3.7 mm in body length and 0.4–1.8 mm in body width. This is a purple, legless mealybug that resides inside a felted white ovisac and produces a long wax tube from the anal opening to project droplets of honeydew away from the body (Fig. 1). Honeydew production promotes the growth of sooty mold, a type of fungus, which causes a black appearance around the nodes. In heavy infestations, honeydew dripping onto the plant can cause sooty mold growth that covers entire stems and leaves, potentially reducing photosynthesis. Ants are often in attendance feeding on honeydew and protecting the mealybugs from natural enemies.

Two other species of *Antonina* mealybugs are very common and widespread invasive pests in Florida. The first, known as the rhodesgrass scale (*Antonina graminis* (Maskell)) specializes on grasses but tends to prefer hosts other than bamboo (reviewed by García Morales et al. 2016). The second, commonly referred to as noxious bamboo mealybug (*Antonina pretiosa* Ferris), specializes on bamboo. Given that these species are virtually indistinguishable in life, specimens must be slide-mounted to confirm identification. Slide-mounted adult female specimens of *A. nakaharai* (Fig. 2) can be differentiated from *A. pretiosa* by having (*A. pretiosa* character states given in parentheses): abdominal plates absent (present) and multilocular pores abundant, present on all abdominal segments, thorax and head (multilocular pores absent or if present, restricted to a few on the dorsum near the anal opening). *Antonina socialis* Newstead and *Antonina crawi* Cockerell are two congenerics that are extremely similar morphologically. Both have been reported in the southeastern United States, but neither are present in the Florida landscape (Williams and Miller 2002). A molecular analysis is needed to rule out the potential synonymy of these species given multiple shared, overlapping character states.

Unlike the other species of *Antonina* mentioned above, *A. nakaharai* can be distinguished easily from another common bamboo-infesting mealybug in Florida, *Palmicultor lumpurensis* (Takahashi), by body coloration (pink in *P. lumpurensis*; purple in *A. nakaharai*) and degree of leg development in the adult female (legs present in *P. lumpurensis*; legs absent/vestigial in *A. nakaharai*). Additional characters that separate the two species are best appreciated once the insects are cleared and slide mounted. Specimens can be sent to FDACS-DPI's Entomology section for positive identification. Forms and instructions for sample submission can be found at www.FDACS.gov/DPIsamples.

HOST PLANTS

Antonina nakaharai has been reported from the following poaceous hosts (species names preceded by an asterisk are present in Florida) (García Morales et al. 2016):

- **Bambusa multiplex* (Lour.) Raeusch. Ex Schult.f.
- *Dendrocalamus latiflorus* Munro
- **Phyllostachys aurea* (André) Rivière & C.Rivière
- *Phyllostachys edulis* (Carrière) J.Houz.
- *Phyllostachys glauca* McClure
- *Phyllostachys sulphurea* (Carrière) Rivière & C.Rivière
- *Pleioblastus amarus* (Keng) Keng f.
- *Pleioblastus simonii* (Carrière) Nakai
- *Pleioblastus variegatus* (J.Dix) Makino
- **Pseudosasa japonica* (Siebold & Zucc. ex Steud.) Makino ex Nakai
- *Sasa kurilensis* (Rupr.) Makino & Shibata
- *Sinobambusa tootsik* (Makino) Makino ex Nakai

Williams and Miller (2002) also examined a specimen of *A. nakaharai* with the host listed as *Ixora chinensis* Lam.; however, there is a question mark following the host name on the slide label. We consider this record dubious.

NATURAL ENEMIES

No specific natural enemies have been reported for *A. nakaharai*. Other species of the genus are attacked by a wide range of parasitoid wasps (primarily chalcidoid wasps of the family Encyrtidae) (UCD Community 2023) and predators (primarily beetles of the family Coccinellidae) (García Morales et al. 2016). The rarity of *A. nakaharai* in Florida may be explained, in part, by the presence of one or more of these biocontrol agents.

ADDITIONAL BAMBOO-INFESTING MEALYBUGS IN FLORIDA

In addition to *A. nakaharai*, the following species of mealybugs are present in Florida and have at least one host record that includes a genus of bamboo present in the state (García Morales et al. 2016):

- *Antonina graminis* (Maskell)
- *Antonina pretiosa* Ferris
- *Chaetococcus bambusae* (Maskell)
- *Miscanthicoccus miscanthi* (Takahashi)
- *Palmicultor lumpurensis* (Takahashi)
- *Palmicultor palmarum* (Ehrhorn)
- *Planococcus citri* (Risso)
- *Pseudococcus viburni* (Signoret)

REFERENCES CITED

García Morales, M., Denno, B.D., Miller, D.R., Miller, G.L., Ben-Dov, Y. and Hardy, N.B. (2016). ScaleNet: A literature-based model of scale insect biology and systematics. Database. doi: 10.1093/database/bav118. http://scalenet.info.

Gavrilov-Zimin, I.A. (2003). Legless mealybugs (Homoptera: Pseudococcidae) from Russia and neighbouring countries. Annales Zoologici (Warsaw) 53(3): 205–209.

Suh, S.-J. (2020). Host plant list of the scale insects (Hemiptera: Coccomorpha) in South Korea. Insecta Mundi 0757: 1–26.

UCD Community. (2023). Universal Chalcidoidea Database Website. https://ucd.chalcid.org. Accessed on 7 January 2026.

Williams, D.J. and Miller, D.R. (2002). Systematic studies on the *Antonina crawi* Cockerell (Hemiptera: Coccoidea: Pseudococcidae) complex of pest mealybugs. Proceedings of the Entomological Society of Washington 104(4): 896–911.

Wu, S.A., Lu, Y. and Nan, N. (2012). A review of the genus *Antonina* Signoret in China (Hemiptera: Coccoidea: Pseudococcidae), with description of a new species. Zootaxa 3514:27–42.

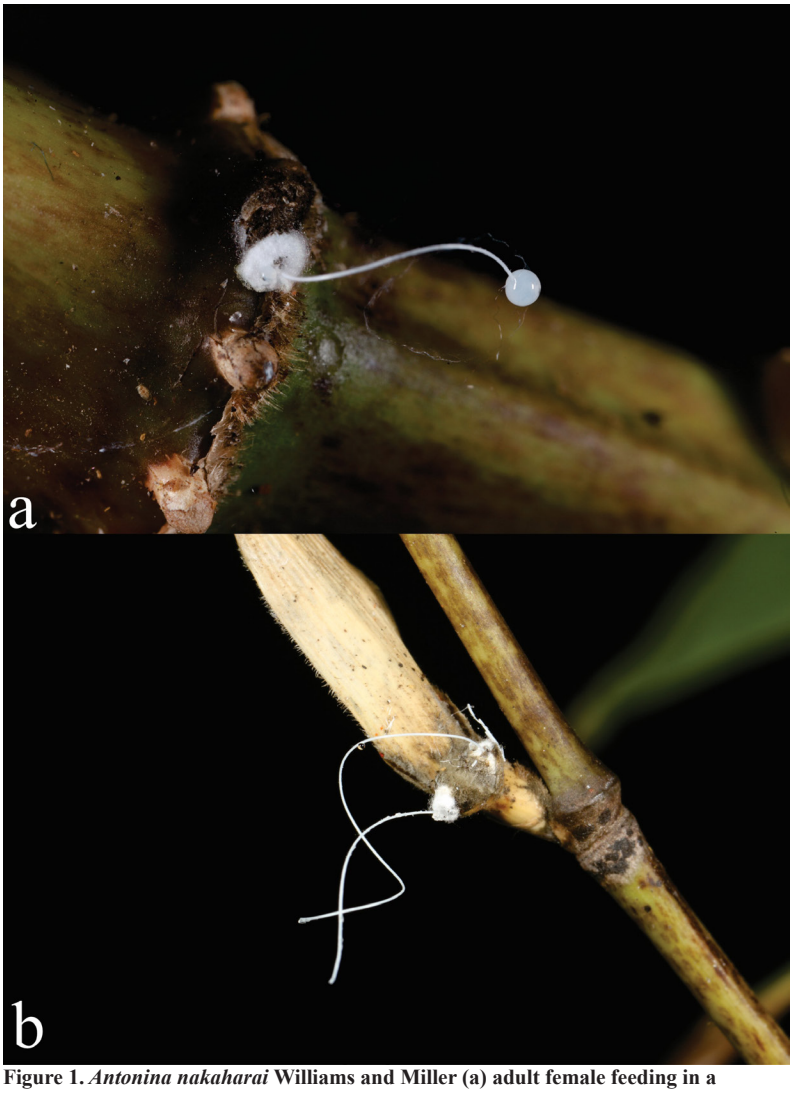

Figure 1. ***Antonina nakaharai*** **Williams and Miller (a) adult female feeding in a node of the bamboo** ***Phyllostachys nigra*** **(Lodd. ex Lindl.) Munro.** The female (left) is covered in flocculent wax and projects a long wax tube to excrete a droplet of honeydew away from her body. Photo by Erin C. Powell, FDACS-DPI. **(b) Two adult females feeding in the leaf sheath with long wax tubes projecting away from their bodies.** Photo by Lyle Buss, University of Florida.

Figure 2. Slide-mounted adult female ***Antonina nakaharai*** **Williams and Miller (11072025-11554).**
Photo by Erin C. Powell, FDACS-DPI.