Guam New Invasive Species Alert No. 2013-01

Eggplant Mealybug
Coccidohystrix insolita (Green 1908)
(Hemiptera: Pseudococcidae)

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During a visit to a farm near Swamp Road in Dededo (13.539981N, 144.83435E) on December 4, 2013, University of Guam Extension Agent Jesse Bamba discovered a large mealybug with ovisacs infesting the lower surfaces of eggplant leaves. Samples of infested leaves (UGUAM-ESUG-AM20131204.002) were preserved in ethanol for subsequent identification by Dr. Gillian Watson at California Department of Food and Agriculture Diagnostic Center in Sacramento, California. Dr. Watson identified the mealybug as *Coccidohystrix insolita* (Green 1908) on December 13, 2013. Diagnoses was based on microscopic examination of slide mounts. The species determination was confirmed by Dr. Gregory Evans at the USDA Systematic Entomology Laboratory on December 31, 2013.

Fig. 1. Eggplant leaf infested with *Coccidohystrix insolita*.

Fig. 2. Adult *Coccidohystrix insolita* females with ovisacs.

Description

This is mealybug feeds on the lower surfaces of leaves and on stems (Fig. 1). Adult females have ovisacs (Fig. 2). Nymphs are largely devoid of wax, unlike most species of mealybugs. A distinctive character of the nymphs is transverse lines of dark pigmentation on the dorsal surface of their abdomens (Fig. 3).

Host Plants

C. insolita is polyphagous and is recorded from the following host plants (Veilleux et al. [2001]):

ACANTHACEAE: *Adhatoda vascica, Anisotes trisolcus, Barleria cristata, Barleria cristata, Erianthemum, Justicia adhatoda; Amaranthaceae: Achyranthes, Achyranthes aspera, Alternathera eriandra, Gomphrena celosioides, Gomphrena globosa*; APOCYNACEAE: *Tabernaemontana*; ARACEAE: *Schismatoglottis*; ARECACEAE: *Cocos nucifera*; ARISTOLOCHIACEAE: *Aristolochia indica*; ASTERACEAE: *Mikania, Psiadia, Psiadia altissima;* CHENOPODIACEAE: *Chenopodium album;* CUCURBITACEAE: *Momordica dioica*; EUPHORBIACEAE: *Acalypha, Croton sparsiflorus, Croton sparsiflorus, Euphorbia pulcherrima*;

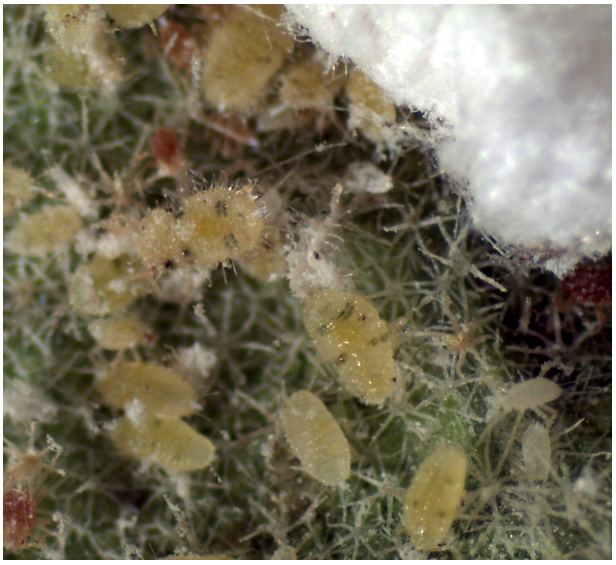

Fig. 3. *Coccidohystrix insolita* nymphs. Note transverse pigmented lines on abdomen.

FABACEAE: *Cajanus, Cajanus cajan, Cajanus indicus, Crotalaria fulva, Dalbergia sissoo, Strongylodon, Tephrosia purpurea*; MALVACEAE: *Abutilon, Abutilon indicum, Hibiscus, Hibiscus rosa-sinensis, Malachra capitata, Malvastrum coromandelianum*; MENISPERMACEAE: *Cyclea, Cyclea burmanni*; MORACEAE: *Ficus, Morus alba*; POACEAE: *Oryza sativa; Rhamnaceae: Ziziphus jujuba*; RUBIACEAE: *Coffea robusta; Solanaceae: Brunfelsia nicotiana, Cyphomandra betaceae, Datura, Datura alba, Datura fastuosa, Datura metel, Datura stramonium, Lycopersicon esculentum, Nicotiana tabacum, Physalis maxima, Physalis peruviana, Sida, Sida cordifolia, Sida rhombifolia, Solanum, Solanum auriculatum, Solanum biflorum, Solanum giganteum, Solanum hispidum, Solanum incanum, Solanum indicum, Solanum melongena, Solanum nicotianum, Solanum tuberosum, Solanum xanthocarpus, Withania somnifera*; STERCULIACEAE: *Dombeya*; TILIACEAE: *Triumfetta*; ZYGOPHYLLACEAE: *Tribulas*.

Several of these host plants are are important to agriculture and forestry on Guam.

DISTRIBUTION

Distribution on Guam is unknown.

C. insolita is recorded from the following regions and countries (Veilleux et al. [2001]):

AFROTROPICAL: Kenya, Madagascar; Rodriques Island, South Africa, Tanzania, Zanzibar; AUSTRALASIAN: Western Samoa; ORIENTAL: Bangladesh, Burma (=Myanmar), India, Laos, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; PALAEARCTIC: China, Saudi Arabia.

Note that prior to our discovery of *C. insolita* on Guam this species was known only from two Pacific island nations: the Philippines and Western Samoa. Our discovery is the first report of *C. insolita* for a United States territory.

PEST STATUS

Given the broad plant host range and lack of known natural enemies for *C. insolita* on Guam, this species has the potential to become a major pest impacting Guam's agriculture and its natural environment.

CONTROL

Infested plants should be removed and destroyed. Seal them in large garbage bags in the field and dispose of by burning.

ACKNOWLEDGMENTS

Thanks to Dr. Gillian Watson, California Department of Food and Agriculture, for quick species determination. Dr. Watson volunteered to identified specimens in response to a message and links to images posted on PestNet. Thanks to the PestNet community for advice on this and other emerging invasive species problems impacting Pacific islands.

REFERENCES

K. Veilleux, D.R. Miller, and Y. Ben-Dov. ScaleNet Database, Catalogue page for Coccidohystrix insolita, 2001. URL http://www.sel.barc.usda.gov/catalogs/Pseudoco/Coccidohystrixinsolita.htm#Coccidohystrixinsolita.