

# Introduction, distribution, and field diagnostics of phantasma scale

**Zee Ahmed, Ph.D.**

Research Entomologist

Subtropical Insects and Horticulture Research Unit

US Horticultural Research Laboratory

Agricultural Research Service

US Dept of Agriculture, Southeast Area

2001 South Rock Road, Ft Pierce, FL 34945

Office: (772) 462-5912

Cell: (352) 283-0173

[muhammad.ahmed@usda.gov](mailto:muhammad.ahmed@usda.gov)



Introduction

# Scale Insects



Introduction

# Scale Insects



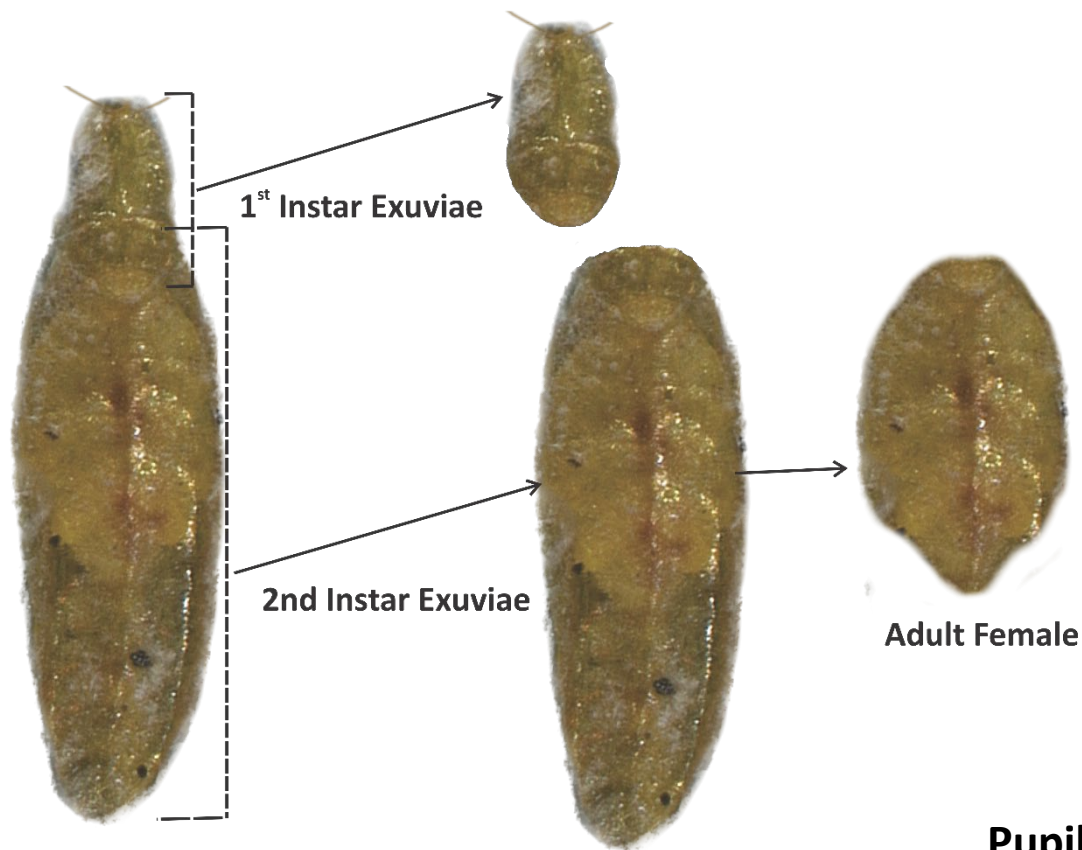
# False Florida Red Scale



# Leivasi Armored Scale

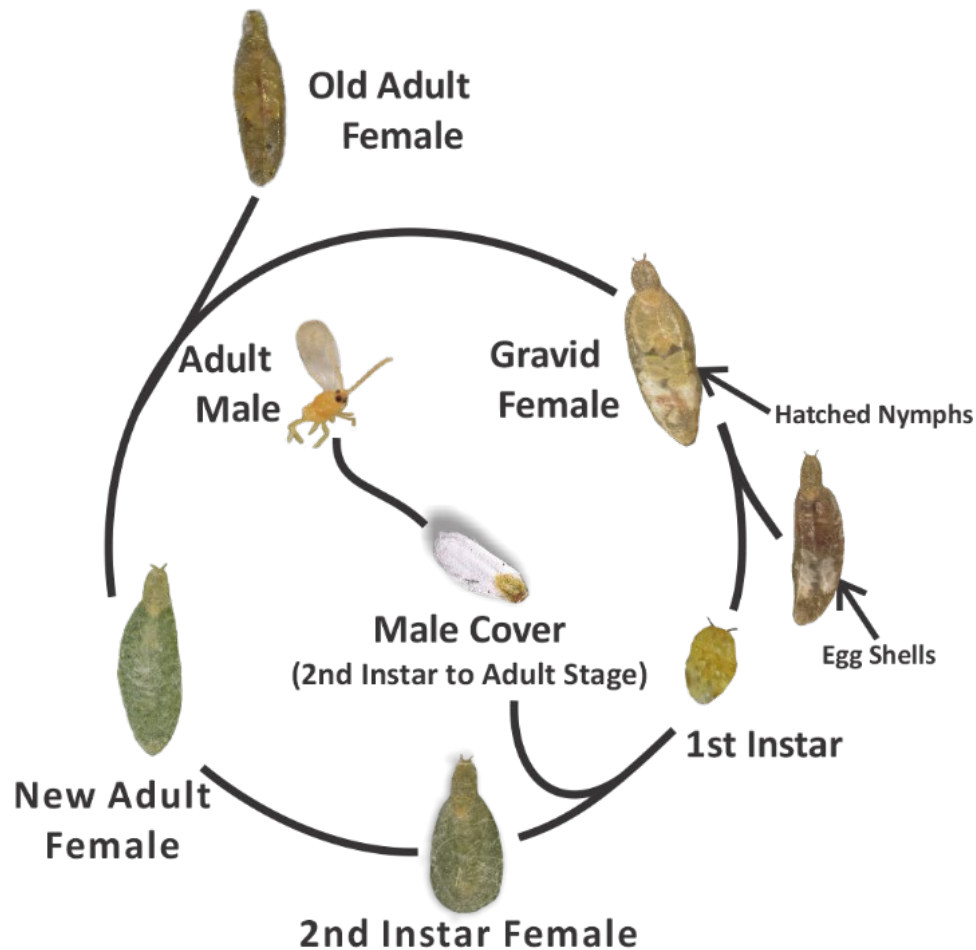


# Phantasma Scale

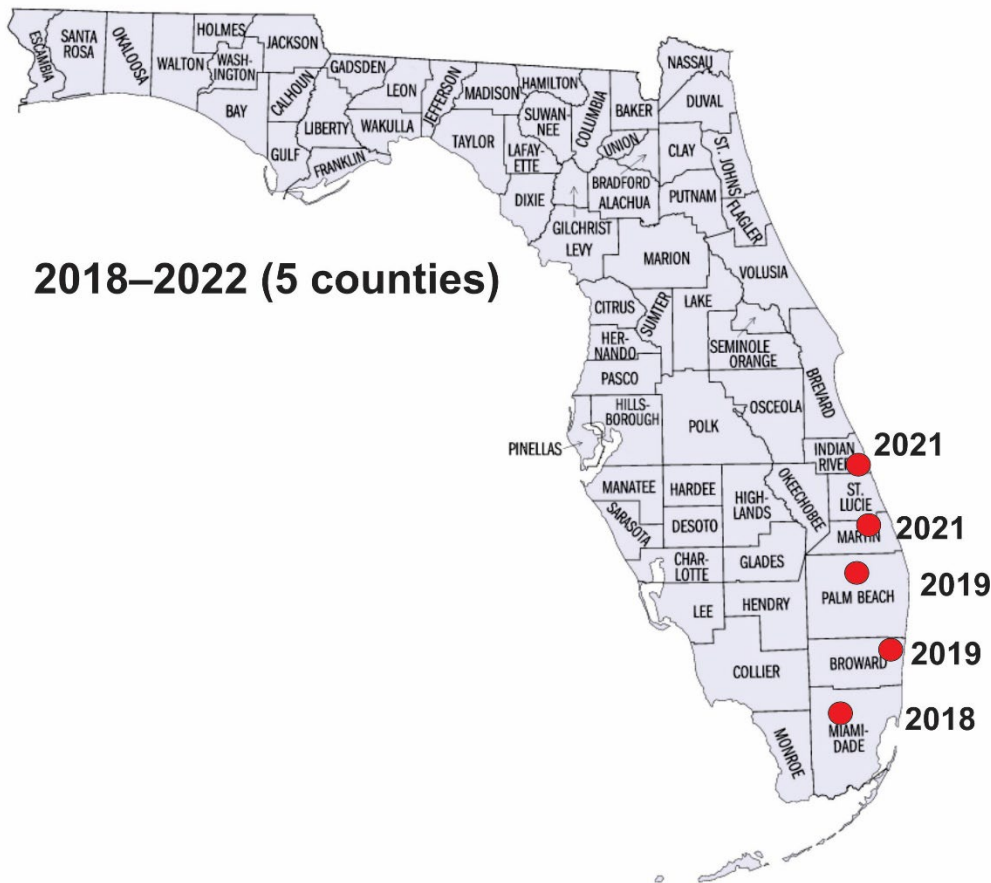


Pupillarial species

# Phantasma Scale



# Phantasma Scale





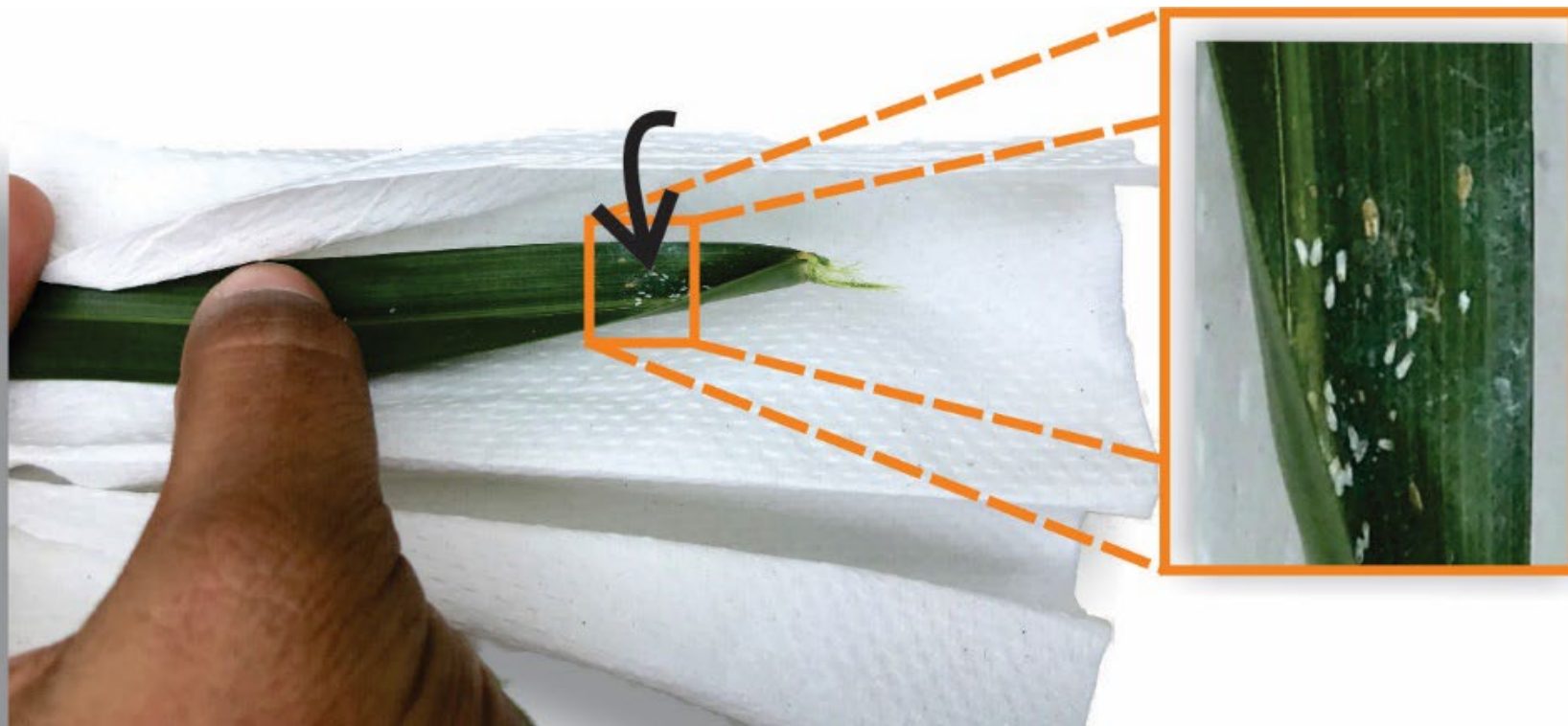








# Phantasma Scale



Leaf of *Dypsis lutescens*, areca palm

# Other Closely Related Species

Not In Florida

In Florida



Species	<i>F. externa</i>	<i>F. japonica</i>	<i>F. pinicola</i>	<i>F. proboscidaria</i>	<i>F. phantasma</i>	<i>F. fioriniae</i>	<i>F. theae</i>
Common Host	Conifer	Conifer	Junipers	Citrus	Palms	Palms	Camellias

# Other Similar Species on Palms



Coconut mealybug

Hodges and Hodges 2017 (EDIS)

# Other Similar Species on Palms



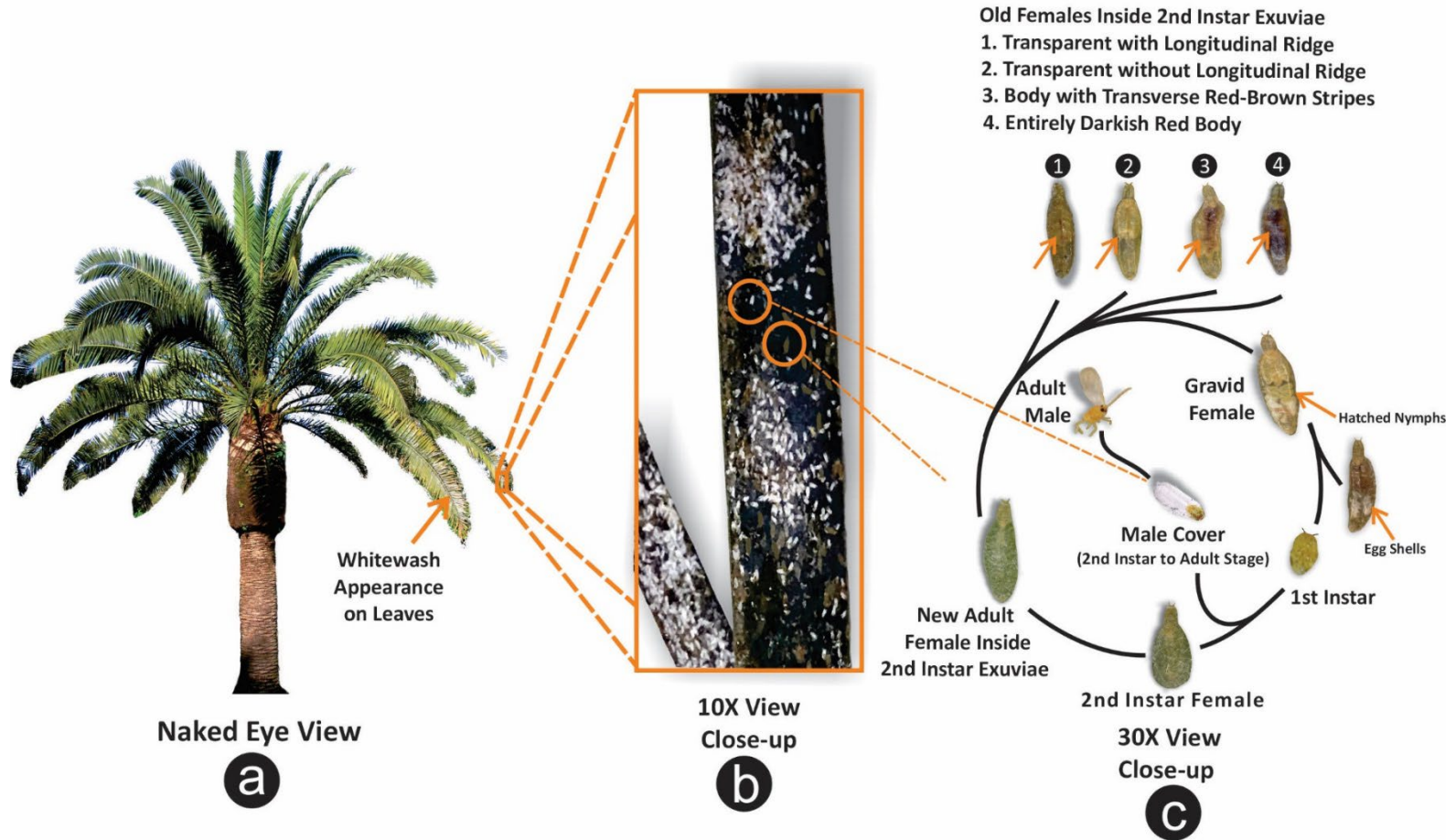
Rugose spiraling whitefly

Vivek et al. 2020 (EDIS)



Summary

# Phantasma Scale



# Which one is Phantasma Scale?



**A**



**B**



**C**

# Which one is Phantasma Scale?



**A**



**B**



**C**

# Which one (s) is/are Male Armored Scale?



**A**



**B**



**C**

# Which one (s) is/are Male Armored Scale?



**A**



**B**



**C**

# Which one is Phantasma Scale?



**A**



**B**



**C**



**D**

# Which one is Phantasma Scale?



A



B



C



D

# References

**Ahmed, M.Z., & Miller, D.R.** 2018a First U.S. Continental Record of *Fiorinia phantasma* Cockerell & Robinson (Hemiptera: Diaspididae), Phantasma Scale, Potential Pest of Palms and Ornamentals Plants. Pest Alert (Animal and Plant Health Inspection Service, United States Department of Agriculture) 01880

**Ahmed, M.Z.** 2018b Field Detection and Potential Host Plants of *Fiorinia phantasma* Cockerell & Robinson (Diaspididae: Hemiptera), Phantasma Scale, Potential Pest of Palms and Ornamental Plants in Florida. Circular (Florida Department of Agriculture and Consumer Services Division of Plant Industry) FDACS-P-01917 (439)

**Ahmed, M.Z., Miller, D.R., Rohrig, E.A., Hodges, G.S., Roda, A.L., McKenzie, C.L., & Osborne, L.S.** 2021 Field Report and Survey of *Fiorinia phantasma* (Hemiptera: Diaspididae), Potential Pest of Palms, and Ornamental Plants in the United States. Journal of Integrated Pest Management 12(1): 33; 1–10

**Ahmed, M.Z., Moore, M.R., Rohrig, E.A., McKenzie, C.L., Liu, D., Feng, J., Normark, B.B., & Miller, D.R.** 2021 Taxonomic and identification review of adventive *Fiorinia* Targioni Tozzetti (Hemiptera, Coccoomorpha, Diaspididae) of the United States. ZooKeys 1065: 141–203