

Key Ornamental Insect & Mite Pests in the Landscape

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One of the biggest problems in pest management is the introduction and establishment of exotic, invasive pests

Chilli Thrips

(*Scirtothrips dorsalis*)

- Originally from south Asia; found in FL in 2005
- Now occurs nearly statewide
- Feeds on many wild and cultivated plants including ornamentals, fruits and vegetables
- Can spread at least 3 viruses, including tomato spotted wilt virus



- **Life cycle – 14 to 20 days**
- **Each female lays 60 - 200 eggs into plant tissue**
- **Immatures are pale in color and very small**
- **Pupation may occur in the soil or on the plant.**
- **Adults are small (0.5 -1.2 mm), pale yellow to gray in color with incomplete dark stripes on the upper surface of the abdomen.**

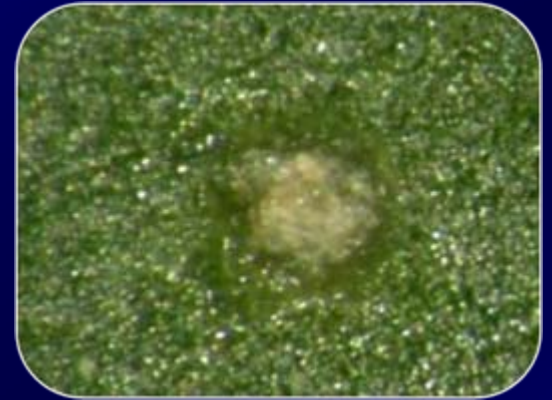


Photo: H. Glenn, UF/IFAS

Thrips Damage



Chilli Thrips Damage

Indian hawthorn



Chilli Thrips - Management

- Many natural enemies (parasitoids and predatory mites, thrips, beetles and bugs).
- Various foliar and drench treatments, alone or combined with oil have achieved some success
- Insecticides include: Avid, Orthene, TriStar, Azatin, Decathlon, Safari, Merit, Pedestal, and Conserve.
- <http://www.mrec.ifas.ufl.edu/Iso/thripslinks.htm>

Red Palm Mite

(Raoiella indica)



- Previously found in India, Philippines, Mauritius, Reunion, Malaysia, Israel & Egypt
- Since 2004 spreading through the Caribbean
- Now in Palm Beach Co. and Broward Co.

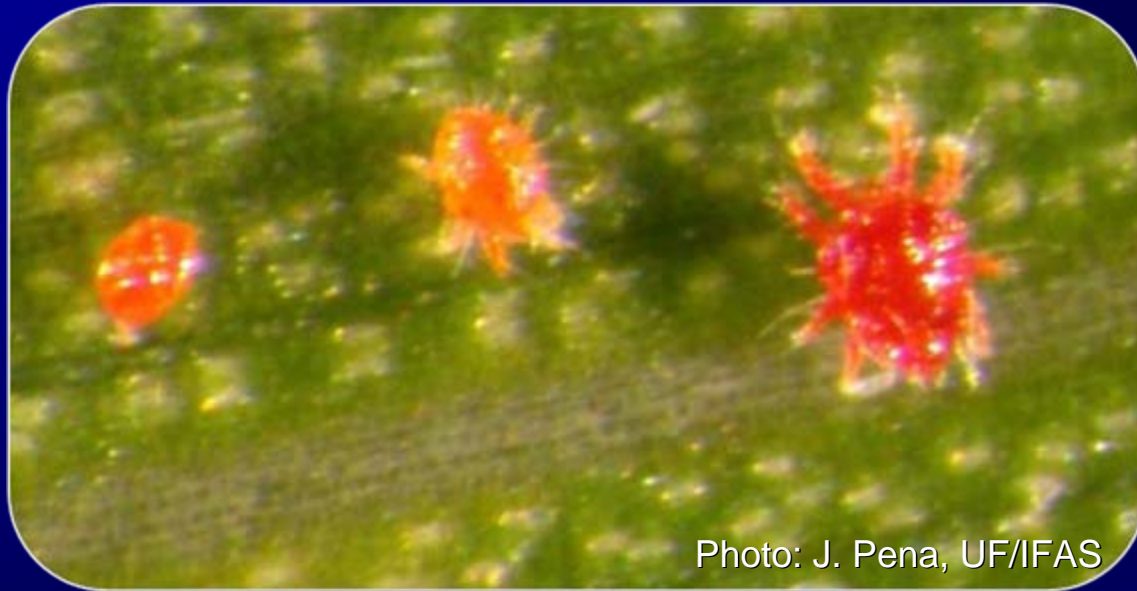


Photo: J. Pena, UF/IFAS

- **Mites are small (0.01 inch), flat, oval, red.**
- **Usually feed on the underside of the leaf**
- **Development time: 21 – 33 days**
- **Each female lays 20 to 50 eggs over lifetime**

Hosts Plants

Palms

- Coconut – *Cocos nucifera*
- Manila- *Adonidia merrillii*
- Date – *Phoenix dactylifera*
- Areca (Butterfly) – *Dyopsis lutescens*
- Christmas – *Veitchia merrillii*
- Hurricane or Princess – *Dictyosperma album*

Banana, ginger, bird of paradise and other plants within the Musaceae

Red Palm Mite Damage: Chlorosis & Necrosis



Red Palm Mite Management in the Landscape

- **Cultural Control**

- Prune heavily infested / damaged plants, double bag and dispose. DO NOT move infested plants or plant parts.

- **Biological Control**

- Some natural enemies have been identified; work is in the early stages.

- **Chemical Control**

- Although miticides are available, chemical management in the landscape will be difficult
- Not all miticides will be efficacious; there are no systemic miticides

Miticides Labeled in Florida

Product	Trade name	Label Rate Range (per 100 gal)	Greenhouse and Nursery Ornamentals	Landscape Ornamentals	MOA
Spiromesifen	Forbid 480 SC	2-4 fl oz	No	Yes	23
	Judo	2-4 fl oz	Yes	No	23
Acequinocyl	Shuttle 15 SC	6.4 – 12.8 fl oz	Yes	No	20
Bifenazate	Floramite SC	4-8 fl oz	Yes	Yes	2
Etoxazole	TetraSan 5WG	8-16 oz	Yes	Yes	10B
Milbemectin	Ultiflora	8-16 fl oz	Yes	No	6

Ficus Whitefly

Singhiella simplex (Hemiptera: Aleyrodidae)

- First observed in 2007
- New U.S. continental record
- Currently in Miami-Dade, Broward, Palm Beach & Collier Counties
- Faint grey band on the middle of the wings



Photo: H. Glenn, UF/IFAS



Adult Whitefly
(2-4 days)



Eggs
(10 days)



Ficus Whitefly Life Cycle

Constant temperature (80° F)



4th instar – puparia
(5.8 days)



2nd-3rd instars – nymphs

2nd instar – 3.7 days; 3rd instar – 3.3 days



1st instar – crawler
(4.2 days)

Ficus Whitefly Hosts

- *F. benjamina* (weeping fig)
- *F. altissima*
- *F. bengalensis* (“banyan tree”)
- *F. aurea* (strangler fig)
- *F. microcarpa* (Cuban laurel)
- *F. maclellandii* (banana-leaf fig)

Damage to Ficus

- Leaf yellowing
- Defoliation
- Branch dieback



Photo: A. Roda, USDA APHIS

Natural Enemies Found in Miami on Ficus Infested with Whitefly

- Predators
 - Lady bugs (5 species)
 - Green lacewings
- Parasitoids
 - *Encarsia protransvena*
 - *Amitus bennetti*

Fig Whitefly Management in the Landscape

- Monitor for early signs of infestation
- Current pesticide recommendations
 - Apply a neonicotinoid (e.g., Merit, Safari, Arena, Meridian) as a soil DRENCH
 - Limited foliar recommendations (horticultural oil, insecticidal soap, Avid, Forbid, Distance, Talus, pyrethroids, and neonicotinoids)