

Two mites and a scale: new pests of significance for tropical fruit crops

*Jonathan H. Crane, Tropical Fruit Crop Specialist,
Univ. of Fla.-IFAS, Tropical Research and
Education Center, Homestead and Jason L.
Osborne, Multi-County Tropical Fruit Crops
Agent, Miami-Dade Co. Coop. Extn., Homestead*

False spider mites

- *Brevipalpus phoenicis* and *B. californicus*
- Common names – false spider mite, passionvine mite,
- Origin not known but they are tropical-subtropical species.
- Distribution: South America (Argentina, Brazil, Guyana), Australia, Africa, Mexico, Asia, Europe (Portugal, Italy, Spain), Cuba, Greece, and the United States (Arizona, California, Florida, Hawaii, District of Columbia, Kansas, Louisiana, Maryland, Texas).
- At least 1,000 hosts known, many fruit species including guava, longan, lychee, papaya, and citrus.

Description and life cycle

- *B. phoenicis*
- Very small [275 microns long (3/250 inch)] – (need a microscope)
- Body flat, light to dark green or reddish orange
- Lifespan: 7-47 days (longer during cool temperatures)
- Time from egg to adult ranges from 10-27 days (many generations possible)



Adult mite

Photo credit: USDA

Description and life cycle

- *B. californicus*
- Very small [228 microns long] – (need a microscope)
- Body flat, amber to reddish
- Lifespan: ~21 days (longer during cool temperatures)
- Time from egg to adult ranges from 14 days (many generations possible)



Adult mite

Photo credit: R. Lehman, PA Dept. of Agric., www.forestryimages.org

Damage

- Feeds on and kills surface cells which then desiccate and turn brown. Leaves may be deformed and fruit may crack.



'Kohala' longan fruit – browning and cracking
Photo credit: JH Crane, UF-IFAS, TREC

Research and management

- No current research projects on tropical fruit crops.
- Some biological control although it lags so far behind damaging populations that chemical control is necessary to prevent economic damage.
- Timed sulfur sprays – scout fruit clusters for signs of damage (especially tops of trees) from pea size to harvest, apply sulfur at most 1 to 2 times per month depending upon the infestation.

False spider mites - more information

- UF-IFAS and FDACS Featured Creatures at http://creatures.ifas.ufl.edu/orn/mites/Brevipalpus_p_hoenicis.htm
- Extension Entomology, Univ. of HI - CTAHR, Knowledge Master at http://www.extento.hawaii.edu/Kbase/crop/Type/b_p_hoeni.htm

Croton scale (no name/new soft scale)

- Detected in April 2008 in Monroe Co. on croton (*Codiaeum variegatum*).
- Now has been found in Broward, Duval, Indian River, Lee, Miami-Dade, Orange, Palm Beach, Pinellas, Putnam, and St. Lucie Counties.
- Origin, biology and life cycle unknown. Very similar in appearance to Philephedra, green-shield, and urbicola scales.
- Known fruit crop hosts include guava, mango, and longan.
- No current research on this pest.

Croton scale and infestation on 'Kohala' longan



Photo credit: Lyle Buss, UF

Photo credit: Rita Duncan, UF-IFAS-TREC

Management strategy

- Scout grove throughout the year, especially during the off-season and prior to flowering, fruit set, and the fruit development periods to control the pest before harvest.
- Guava – refined oils, Malathion, Knack or Esteem
- Mango – refined oils, Malathion, Knack or Esteem, Supracide
- Longan – refined oils, Supracide, Applaud

More information

- Pest Alert - FDACS-DPI at http://www.doacs.state.fl.us/pi/enpp/ento/coccoidea_coccidae.html
- EDIS – Univ. of Fla.-IFAS at <http://edis.ifas.ufl.edu>