

Texas Citrus Mite¹

C.C. Childers²

The Texas citrus mite, *Eutetranychus banksi* (McGregor) (Figure 1), occurs in North, Central and South America. It was first described from castor bean and velvet bean leaves in Orlando, Florida in 1914. However, it was not collected from citrus until 1951. Since 1955 the Texas citrus mite has been the dominant species of spider mite on citrus and has generally displaced the citrus red mite.

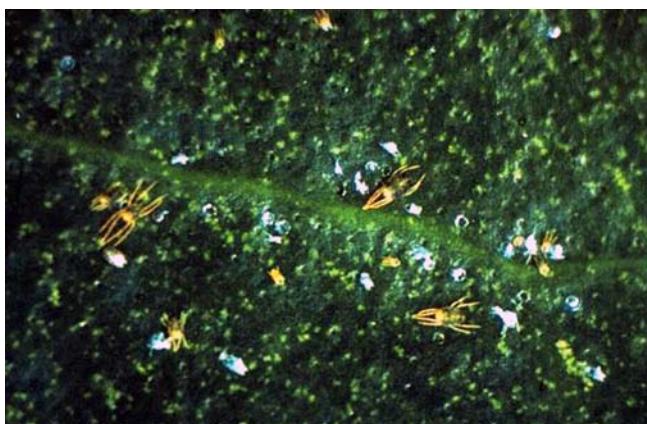


Figure 1. The Texas citrus mite, *Eutetranychus banksi* (McGregor).

Physical Description

Adult: Texas citrus mites have a tan to brownish-green color with dark green to black spots

on the lateral sides of the upper body. The female is about 1/50 inch long, broadly oval and somewhat flattened (Figure 2). A distinguishing characteristic of the Texas citrus mite, besides shape and color is the short, stout hairs or setae on the upper surface of the body. The male (Figure 3) is slender and somewhat triangular (Figure 4). The legs of the male are light brown, slender and longer than those of the female. Immature stages are similar to the adults except in size.

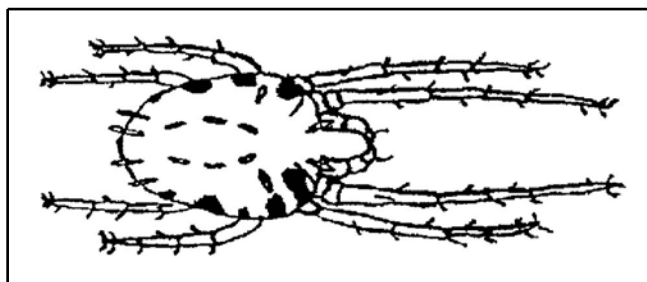


Figure 2. Adult female Texas citrus mite.

Larva: Texas citrus mite larvae have six legs and are pale yellow.

Egg: The egg is flat and disk-shaped with a pronounced rim (Figure 5). Color varies from yellow, when first deposited by the female, to a tan or green color prior to hatching.

1. This document is Fact Sheet ENY-818, a series of the Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: June 1992. Revised: September 1995. Reviewed by Mike Rogers: August 2005. Please visit the EDIS website at <http://edis.ifas.ufl.edu>.
2. C.C. Childers, Professor, Entomologist, Entomology and Nematology Department, Citrus Research and Education Center, Institute of Food and Agricultural Sciences, University of Florida, Lake Alfred, Florida.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A. & M. University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Larry Arrington, Dean



Figure 3. Male Texas citrus mite.

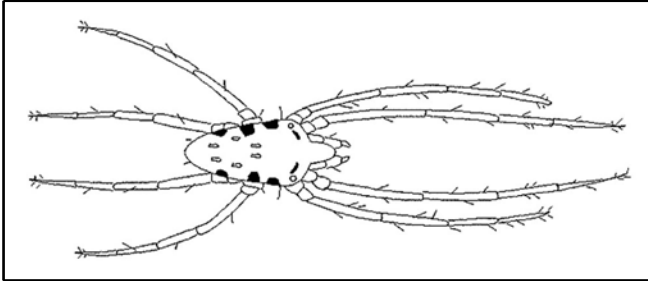


Figure 4. Adult male Texas citrus mite.

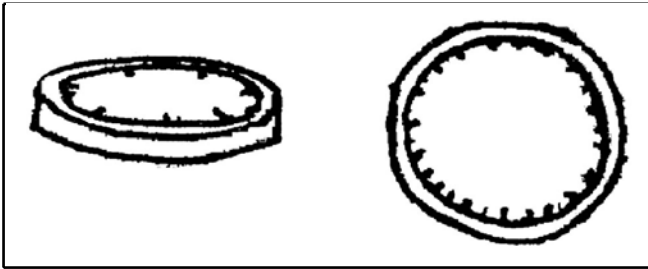


Figure 5. Texas citrus mite egg.

Behavior and Population Dynamics

The mite prefers to deposit eggs on the upper leaf surface along the mid-rib. Infestations of Texas citrus mites may occur at any time of the year in Florida, but peak populations are more common in the spring, late fall and winter (Figure 6). This mite is generally abundant during periods of prolonged dry weather.

The trend since 1955 has been a gradual increase in the occurrence of this mite with a corresponding decrease in the citrus red mite.

Females of the Texas citrus mite develop from egg to adult, (Figure 5), in 29.6, 17.2, 13.1, 11.6, 11.7, and 9.6 days at 59, 68, 77, 82, 86, and 90°F. Population growth between 86 and 90°F is higher for the Texas citrus mite compared with the citrus red mite. The highest total number of eggs produced per female Texas citrus mite was 37 at 82°F with 1.8

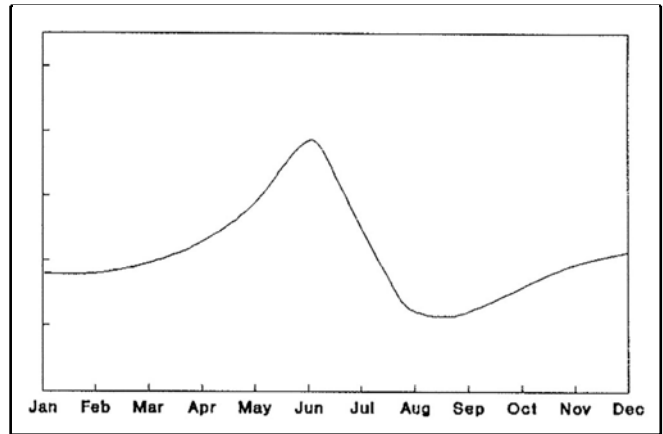


Figure 6. Texas citrus mite population curve.

eggs produced per female per day at 77°F and 8.8 eggs per female per day at 86°F. The maximum adult longevity for 50% of a population was 43 days at 59°F compared with 18 days at 86 and 90°F. The sex ratio of the Texas citrus mite is strongly biased for females with over 80% females compared to the total adult population at temperatures between 68 and 86°F.

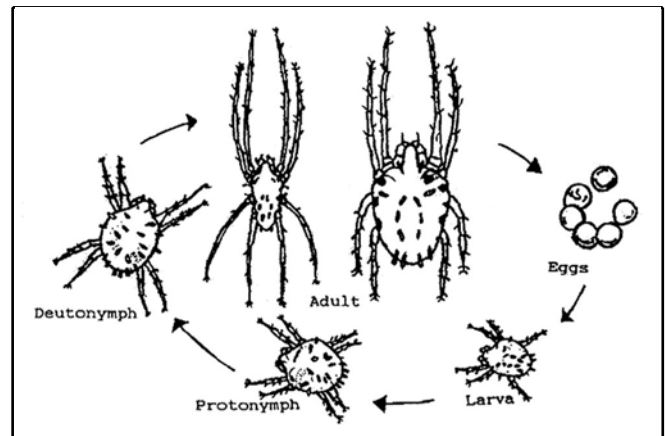


Figure 7. Texas citrus mite life cycle.

Injury to Crops

The mite feeds primarily on the upper leaf surface and rarely is found on fruit except at high levels of infestation. Injury to citrus by this mite is nearly identical to that caused by the citrus red mite. However, twigs have not been found to be infested. Both of these spider mites feed primarily on upper leaf surfaces and cause visible white stippling, mesophyll collapse and leaf drop. Heavy mite infestations coupled with moisture-stressed trees and cold, windy conditions can result in serious tree injury.

Monitoring Techniques

There is no established method for monitoring spider mites on Florida citrus, and economic threshold data on the three species affecting Florida citrus are lacking. However, certain control methods are available.

Spider Mite Control Recommendations

Biological Control

Several predaceous insects and mites have been identified as attacking one or more of the three spider mite species on Florida citrus.

Texas citrus mites are controlled naturally by any of the following shown in Table 1.

Table 1. Biological Control Organisms for Texas Citrus Mites.

Common Name	Scientific Name
Tan mite	<i>Galendromus helveolus</i> (Chant)
Shiny Button mite	<i>Iphiseiodes quadripilis</i> (Banks)
Yellow mite	<i>Typhlodromalus peregrinus</i> (Muma)
Long-haired mite	<i>Amblyseius aerialis</i> (Muma)

Chemical Control

Reducing or eliminating pesticides such as copper, copper plus oil, sulfur and lime sulfur can prevent spider mites from flaring and becoming primary pests. Spray applications of azinphos-methyl and zineb have resulted in increases in citrus red mites in Florida. These compounds create spider mite explosions either by increasing the mites' reproductive rate or by eliminating biological control organisms.

Normal spray routines for controlling such key pests as citrus rust mite and greasy spot may control the Texas citrus mite provided they include one of the miticides for commercial use listed in the *Florida Citrus Pest Management Guide: Spider Mites*. Growers should be concerned about buildup of spider mites especially during dry weather conditions.