Florida flower thrips

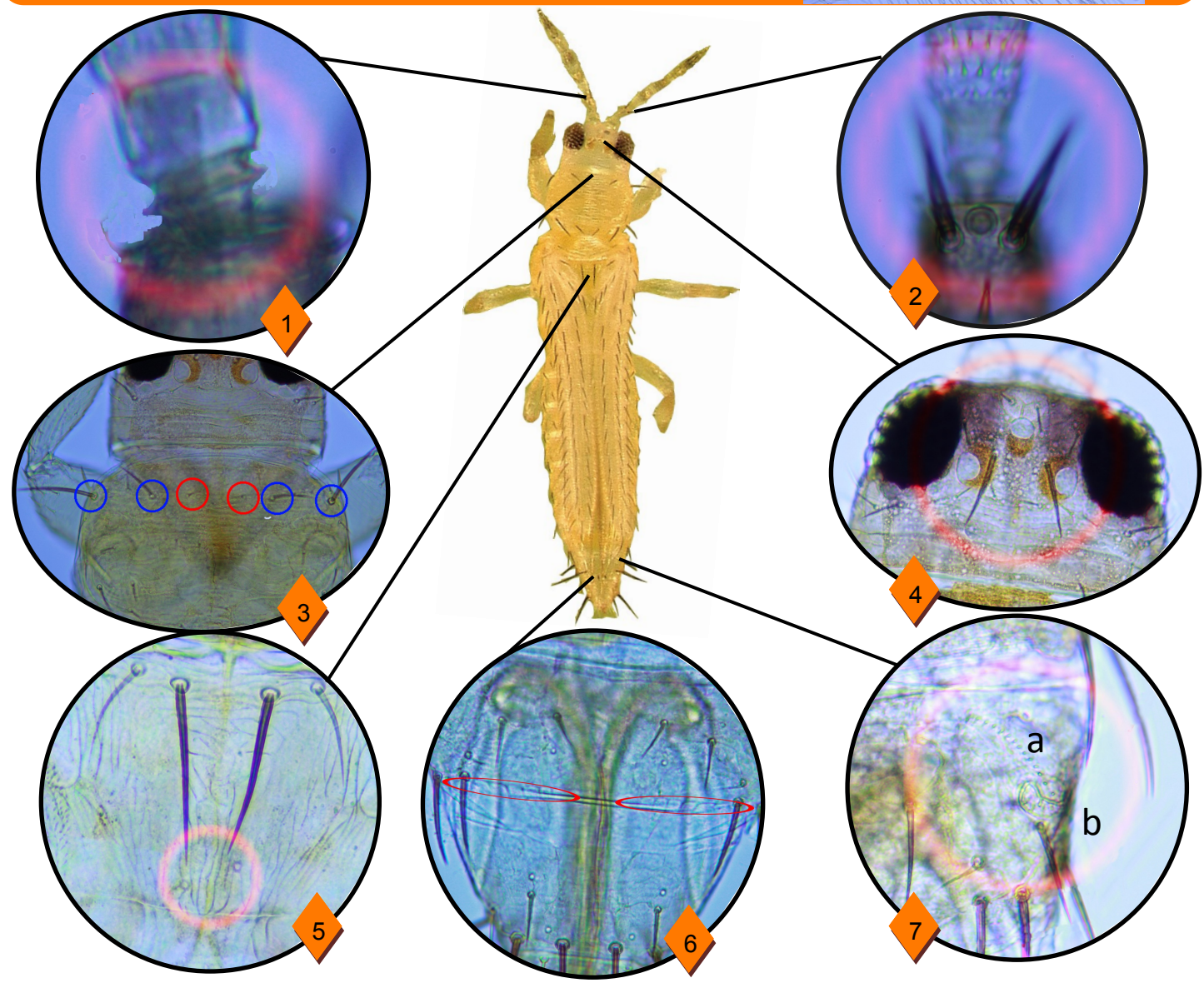
Frankliniella bispinosa (Morgan)

UF IFAS Extension UNIVERSITY of FLORIDA

Jeffrey D. Cluever and

Hugh A. Smith[1]

Morphology



1. Flange-shaped pedicel at base of antennal segment III.
2. Stout spines arising from antennal segment II.
3. 4 major setae on anterior margin of pronotum (blue); 2 minor setae (red).
4. Ocellar III setae not arising between posterior ocelli.
5. Metanotal campaniform sensilla present.
6. Comb on tergite VIII interrupted in center.
7. Ctenidium (a, fringed line) on tergite VIII anterior to spiracle (b).
8. Unbroken line of setae on wing.

1. Jeff D. Cluever, M.S. student, and Hugh A. Smith, assistant professor, UF/IFAS Gulf Coast Research and Education Center

2. Photo Credit: Center- L. Buss, University of Florida; 1-8- J.D. Cluever, University of Florida

Frankliniella bispinosa

Appearance

Egg: Small, embedded in foliage. Unlikely to be seen.

Larvae: Light in color, wingless, appear similar to other *Frankliniella* thrips, and are usually not identified.

Pupal stages: Presence of wing buds with straight antennae (prepupa) or with antennae pulled back over the head (pupa). These are not typically identified.

Adult: Yellow in color. Its most distinctive feature is a pair of stout spines on antennal segment II (observable without slide mounting). Indicative of *Frankliniella* spp., it has four major setae on the anterior margin of the pronotum. Also indicative of *Frankliniella* spp., it has ctenidia (oblique rows of fine hairs [often appearing as dots]) on tergite VIII anterior to the spiracles. **Other features include:** Flange-shaped pedicel (base of antennal segment III). Ocellar III setae (large pair nearest the ocelli) not arising between posterior ocelli. Presence of metanotal campaniform sensilla (small sensory structures that appear like two small dots). Comb on tergite VIII (row of microtrichia) interrupted in center.

Biology: Life Cycle

F. bispinosa exhibits all the life stages common to terebrantian thrips: the egg, larva I, larva II, prepupa, pupa, and the adult. The length of each life stage and the number of progeny produced varies with temperature and host plant.

At 25°C (77°F) on *Alocasia cucullata* leaves and cattail pollen, it takes 13.8 days to develop from an egg to an adult. The individual stages are as follows:

1. The female lays an egg into the plant foliage; about 4.9 days later it hatches.
2. The first and second larval instars feed for 1.9 and 2.9 days respectively.
3. At the end of the second larval instar the thrips drops to the ground to pupate. The quiescent prepupal and pupal instars last for 1.3 and 2.8 days respectively followed by the emergence of the adult.

At this temperature a female has the ability to lay 120 eggs in her lifetime.

Range

Host: Like most species of thrips, *F. bispinosa* has a broad host range including but not limited to: blackberry, blueberry, citrus, corn, cucumber, eggplant, peanut, pepper, rose, strawberry, tomato, and various uncultivated plants.

Origin: Florida

Geographic: Florida and the southern portions of Georgia and Alabama.

Signs and Symptoms: Type of Injury

F. bispinosa is a known pest of blueberry; however, its status in other crops is unclear.

Florida flower thrips transmits *Tomato spotted wilt virus* (TSWV) and possibly other tospoviruses. This species is not as competent a vector as *F. occidentalis.*

This species is primarily a flower feeder, so most damage would be expected on the flower or fruit. If feeding occurs on the foliage it may cause silvering. Feeding on the bloom can cause petal browning or malformed fruit. Feeding on the fruit can cause scarring or bronzing. Occasionally one may see oviposition blisters where the female has laid her eggs.

Publication date: May 2016 ENY-2032