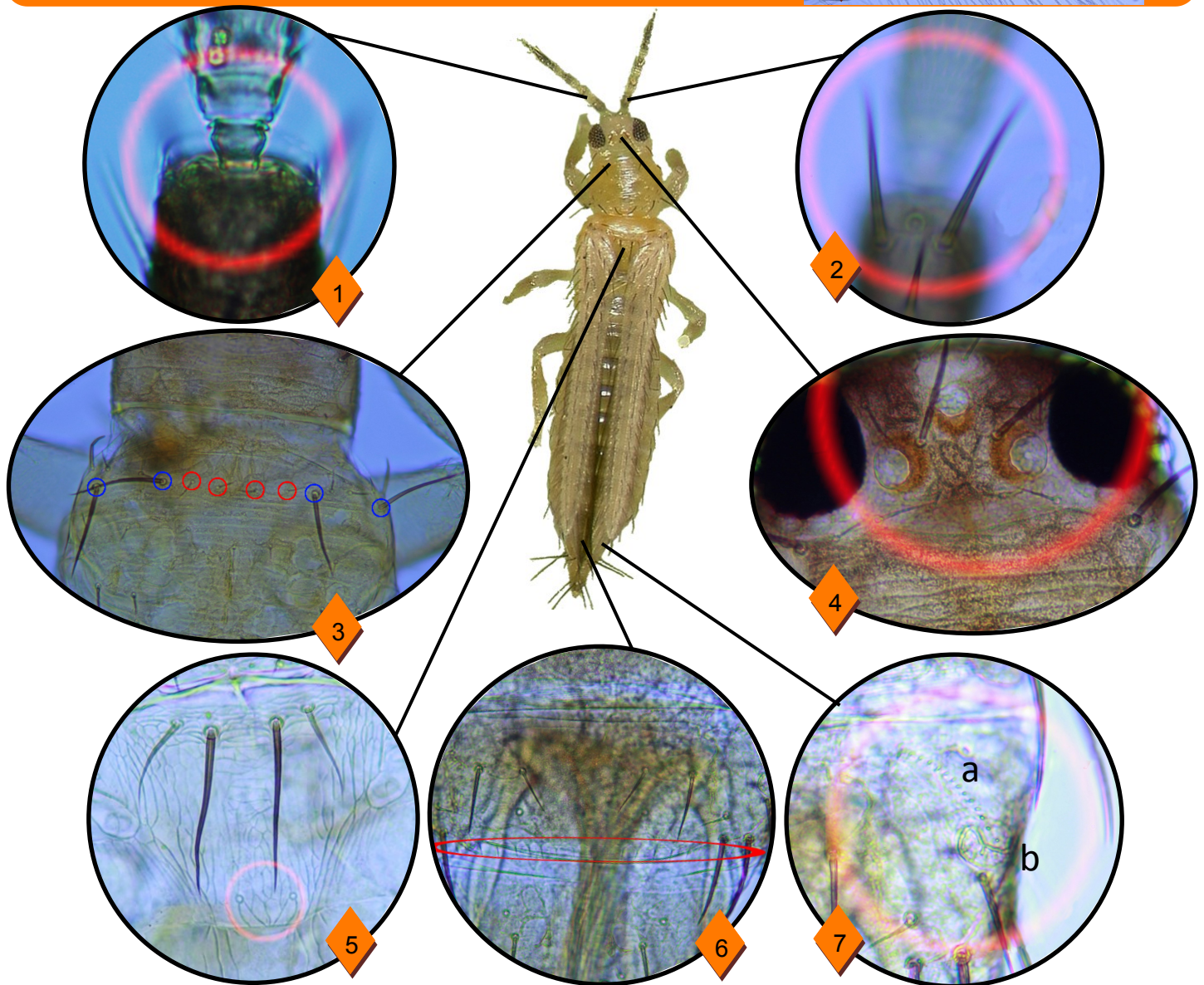


# Western flower thrips

*Frankliniella occidentalis* (Pergande)

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## Morphology



1. Smooth pedicel at base of antennal segment III.
2. No stout spines on antennal segment II .
3. 4 major setae on anterior margin of pronotum (blue); 4 minor setae (red).
4. Ocellar III setae not arising between posterior ocelli.
5. Metanotal campaniform sensilla present.
6. Comb on tergite VIII not interrupted in center.
7. Ctenidium (a, fringed line) on tergite VIII anterior to spiracle (b).
8. Unbroken line of setae on wing.

# *Frankliniella occidentalis*

## Appearance

**Egg:** Minute, present in foliage. Unlikely to be visible.

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

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

**Adult:** *F. occidentalis* has a variety of color morphs. The widespread strain is yellow with a brown stripe down the center of the abdomen. Like other *Frankliniella* spp., it has four major setae on the anterior margin of the pronotum. Also like other *Frankliniella* spp., the ctenidia on tergite VIII (oblique rows of fine hairs [often appearing as dots]) are anterior to the spiracles. **Other features include:** The pedicel (base of antennal segment III) is smooth. Ocellar III setae (large pair nearest the ocelli) do not arise between posterior ocelli. Presence of metanotal campaniform sensilla (sensory structures that appear as two small dots). Comb on tergite VIII (row of microtrichia) complete.

## Biology: Life Cycle

The duration of each stage and the number of progeny per female can vary based on temperature and host plant. On cabbage at 27°C (81°F) it takes 10.2 days to complete development. The individual stages are as follows:

1. The female lays an egg into the plant. After about 3.1 days the larva I stage begins.
2. The larva I and larva II feed on the plant for 1.8 and 2.4 days respectively.
3. Towards the end of the larva II stage the thrips drops to the soil to pupate. The non-feeding prepupal and pupal stages last 1.0 and 2.0 days respectively. This is followed by the emergence of the adult.

At this temperature an adult female can lay about 77 eggs in her lifetime.

## Range

**Host:** *F. occidentalis* has a wide host range. A few examples are: blueberry, cabbage, corn, cucumber, eggplant, melon, peach, peanut, pepper, potato, tomato, roses, rye, strawberry, and various wild plants.

**Origin:** Southwestern United States

Widespread globally and present throughout USA. Present throughout Florida, but more common in the north.

## Signs and Symptoms: Type of Injury

Western flower thrips transmits the carmovirus *Pelargonium flower break virus* (PFBV), the ilarvirus *Tobacco streak virus* (TSV), and the tospoviruses *Chrysanthemum stem necrosis virus* (CSNV), *Groundnut ringspot virus* (GRSV), *Impatiens necrotic spot virus* (INSV), *Tomato chlorotic spot virus* (TCSV), and *Tomato spotted wilt virus* (TSWV).

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 discoloration of bloom 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.