Friend or Foe: Identifying Insect Pests & Biological Controls

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Most Common Greenhouse Arthropod Pests & Beneficials:

- Whiteflies
- Aphids & pred. midge
- Thrips
- Mites
- Fungus gnats
- Shore flies
- Parasitic Wasps
Whiteflies

Eggs on leaf undersides, spindle-shaped, tiny. Hatch 5-10 days

Larvae on undersides of leaves, abt 2 wks.

Pupae 1 week
Empty pupal cases stay on leaf, bright white color.

Bright white color.
Two common species in our greenhouses

Greenhouse WF, Sweet Potato WF

• Tricky to identify species without good magnification & light
These are mostly empty cases of greenhouse whitefly.
These are immatures and adults of sweet potato whitefly.
The black whitefly larvae have been parasitized by *Encarsia formosa.*
Parasitic wasps have narrow waists.
Aphids
Color or presence/absence of wings doesn’t confirm identification!!

Piercing-sucking Mouthparts!!

Cornicles

Photo: Purdue Univ.
Aphids that are winged show:
1. few veins, many being parallel
2. large thick spot towards forewing tip

They often give birth after getting stuck
Telling aphid species apart requires looking at the head, from above and slightly behind. The shape of the “notch” is important.
Green peach aphid

less important character:

• They tend to be high on plants, near the growing tips
Potato aphid

Less important characters:

• Often a slightly dark line is visible down the back.
• Various body colors: pink, yellow, green.
Foxglove aphid

Less important characters:

• Body is usually shiny.
• Often dark patches near base of cornicles.
Foxglove aphid

• Body is usually shiny.
• Often dark patches near base of cornicles.
Melon aphid

Less important Characters:

• They tend to be towards plant interior, on stems or flower buds.
• Cornicles are dark, although body could be dark or light.
Melon aphid: Many plants!

Green peach aphid: Many plants!

Potato aphid: Abutilon, carnation, cineraria, lettuce, rose, tomato, tulip...

Foxglove aphid: Anemone, arum, calceolaria, carnation, cineraria, dahlia, geranium, gloxinia, lettuce, nasturtium...

Sage, Basil, Coleus, Snaps, Zinnia, Lettuce, Ornamental pepper...

Cast skins are white, an obvious sign.
These are aphid parasites
*Aphidius colemani*
Adult of aphid predator, *Aphioletes aphidimyza*
Larva of aphid predator, *Aphioletes aphidimyza*
Yes, it is always ORANGE

Photo: Roger Adams, U Conn.
Thrips
• Tiny!
• Long, slender
• Dark eyes
• Short, straight antennae
Specimens on sticky cards show their fringe-like wings.
Two spotted spider mite
Roughly oval. 2 spots! Tiny!
Predator mites

- Often hard to identify
- Shape is important; pear, not oval
- Color is less reliable indicator
- Move fast

Photo courtesy of Rbt Hislop, U Mass
Hypoaspis miles
photo by Jack Kelly Clark
TSSM on left, predator mite (Persimilis sp) on the right (photo: Jack Kelly Clark)
Fungus Gnats
Long legs
Rel. thin body
No thread waist
Longish antennae
Y-shaped vein
Larvae are in media and roots, and boring in cuttings. They have whitish or clear bodies, dark heads.
Shore Flies

Smoky wings with light spots means shore flies.
Larvae live in wet, slimy conditions and feed on algae.

This is the tail end.
The End