Tips on Scouting Poinsettia Insect and Mite Pests

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UCONN | COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

EXTENSION

Scouting Process

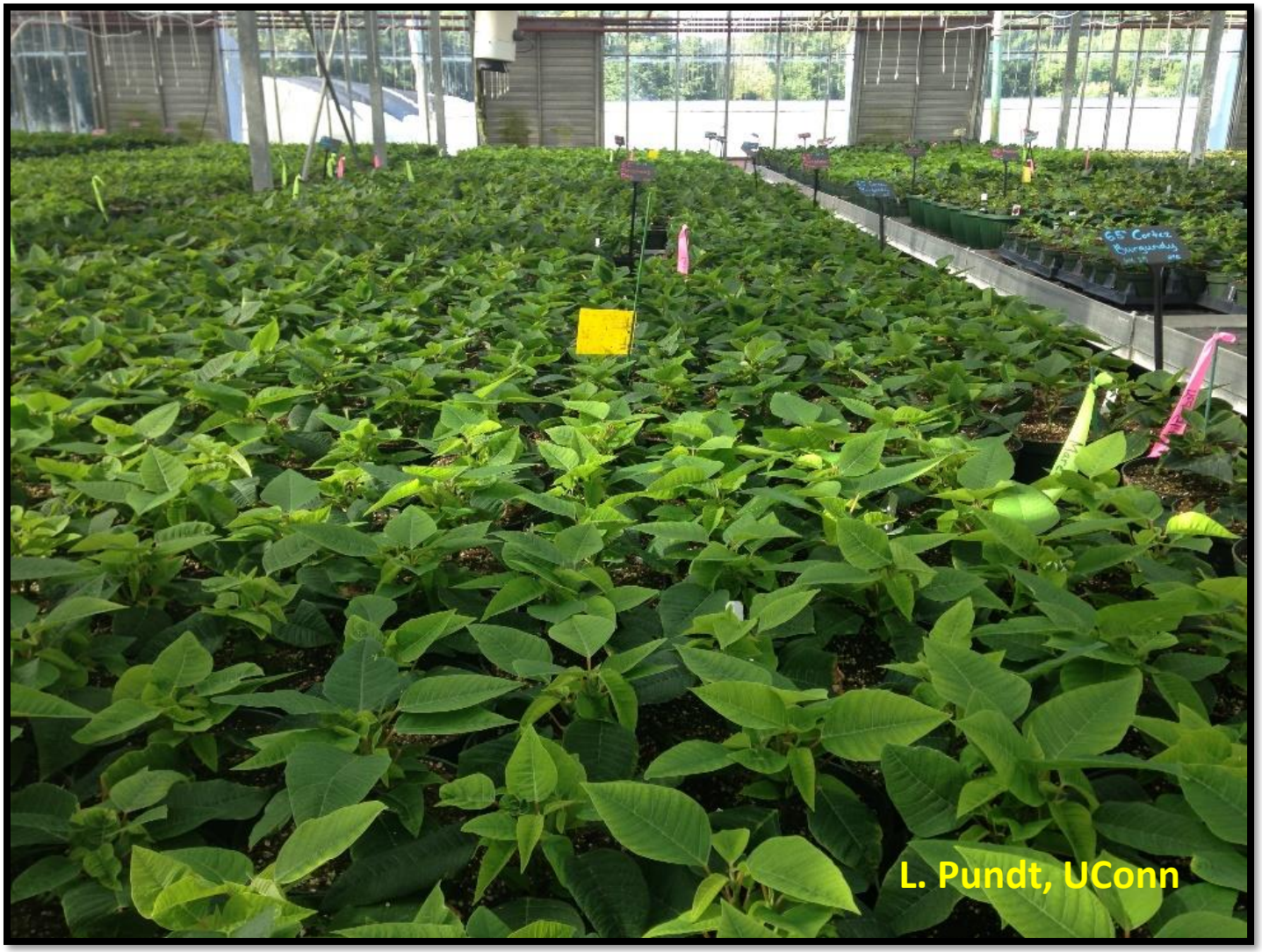
- Pre- Crop Site Evaluation – 4 to 6 weeks before crop is introduced, one week before cuttings introduced
- Inspect incoming plants
- Inspect incoming biological control agents
- Weekly scouting

Weekly Scouting

- Inspecting Yellow Sticky Cards
- Foliar Inspections
  - Pest infested tagged Indicator Plants
  - Random Inspections
- Inspect Roots
  - Root Health
  - Fungus Gnat Feeding
  - Root Rot Diseases

Start Early!

Use of Yellow Sticky Cards



Identifying Some Pest and Beneficial Insects on Your Sticky Cards

Power Point on UConn IPM Website

http://ipm.uconn.edu/pa_greenhouse/

Indicator Plants

Pest infested plants used to track whitefly development to better time sprays or to evaluate effectiveness of biological controls.

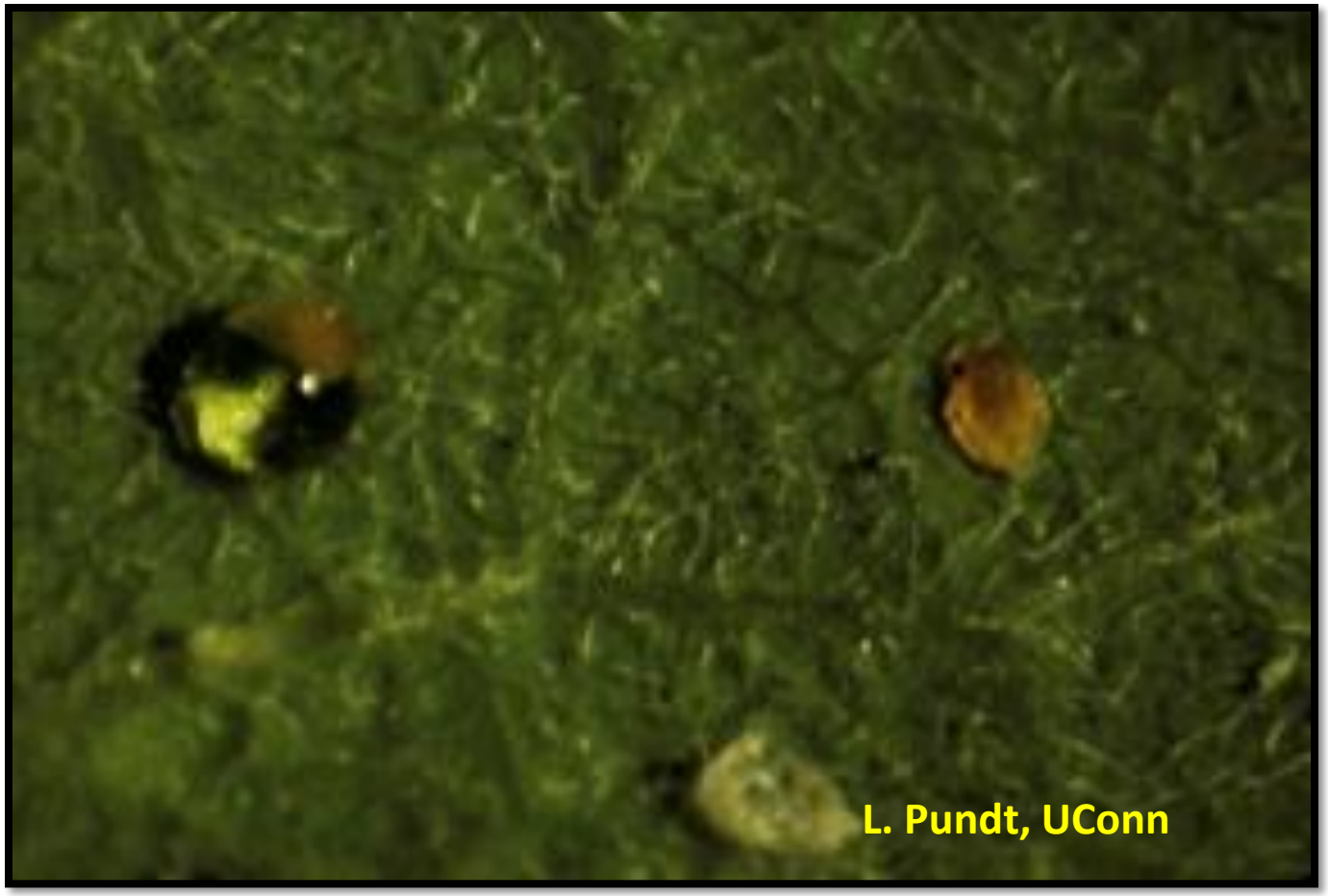
Indicator Plants

Tag leaves with whiteflies.

Using Indicator Plants

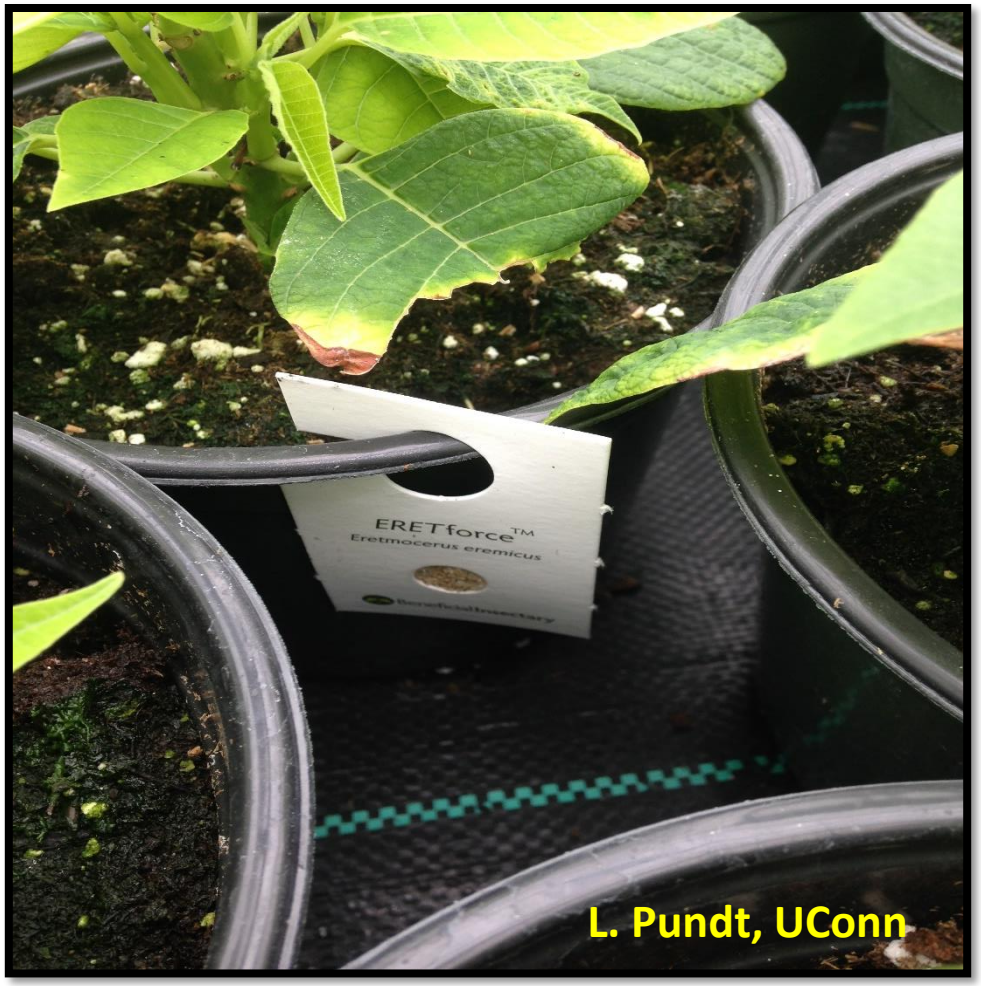
Effect of insect growth regulator on adult whitefly.

Using Indicator Plants



Dried, discolored whitefly nymphs after application of an insect growth regulator.

Using Biological Controls

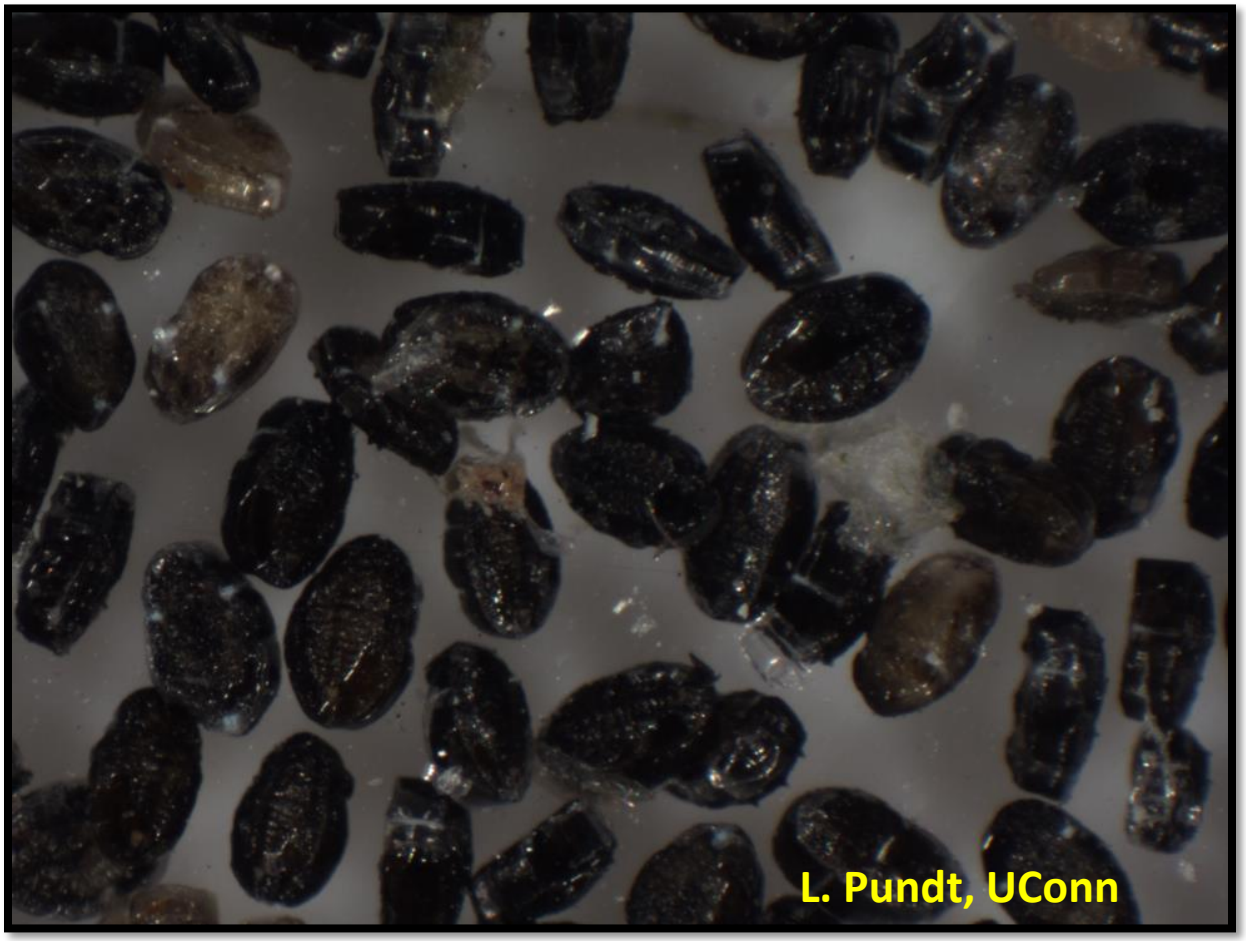


Use of host specific parasitic wasps on cards.

Using Indicator Plants

Brown parasitized pupa of sweet potato whitefly (*Bemisia)* (circled). Small and medium sized crawlers on leaf.

Using Indicator Plants



Black parasitized pupa of greenhouse whitefly.

Random Plant Inspections

Random plant inspections are needed to monitor for insects, mites, diseases, weeds, nutritional & cultural problems

Healthy, Well Branched Root System

Random Plant Sampling

- **Whiteflies: clumped, use YSC to help you find hot spots**
- **Spider Mites: clumped, especially near hot, dry areas**
- **Thrips: uniform when plants are flowering, random or clumped distribution otherwise**

Key Insect Pests

- **Whiteflies**
- **Fungus Gnats**
- **Thrips**

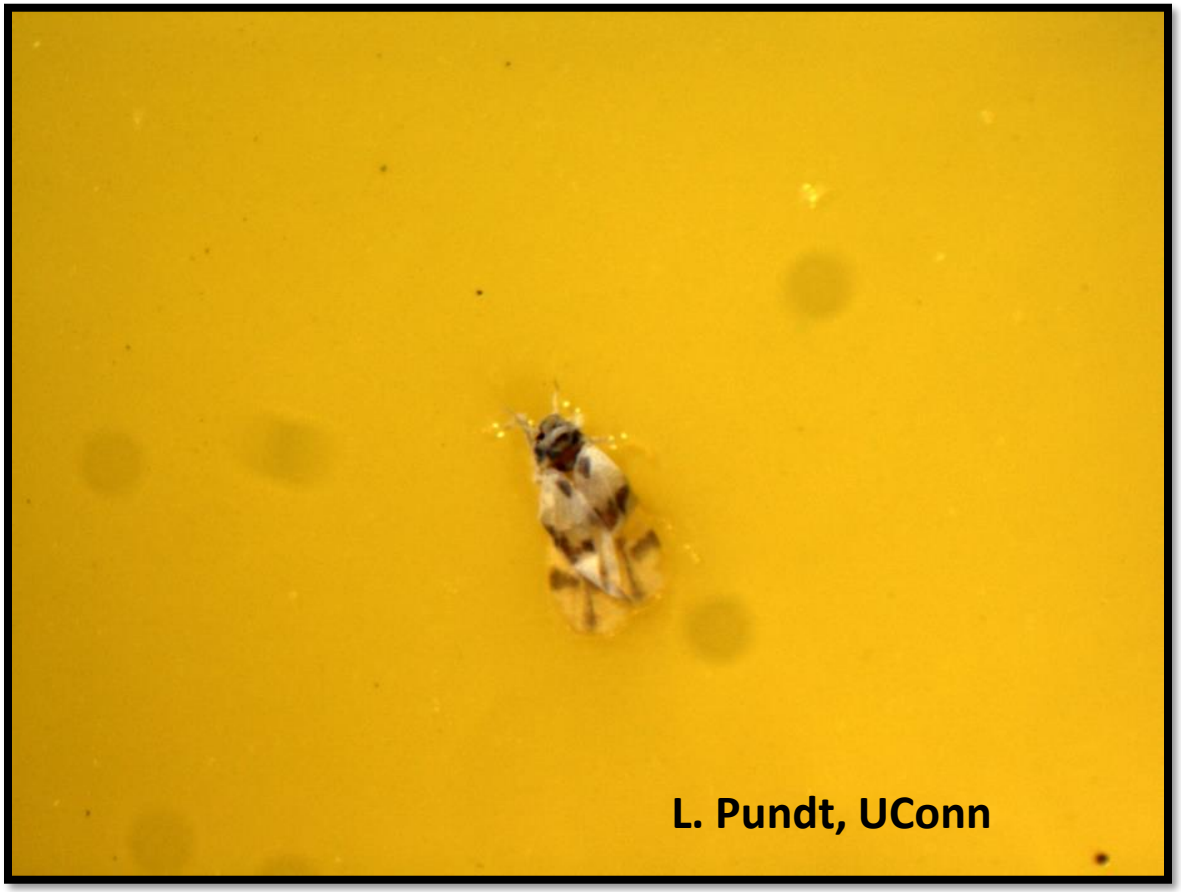
<u>Less Common Pests</u>

- **Lewis Mites**
- **Two-Spotted Spider Mites**
- **Mealybugs**
- **Aphids**

Whiteflies

- **Greenhouse Whiteflies (*Trialeurodes vaporariorum)***
- **Sweet potato Whiteflies (*Bemisia tabaci*)**
  - **It's important to tell the difference between greenhouse and sweet potato whiteflies (*Bemisia)*, especially when using biological controls**
  - **You can't tell whether you have Q or B biotypes of *Bemisia* by foliar inspections (genetic laboratory testing is needed)**

Bandedwinged Whiteflies



Look for two grayish bands across each front wing. They enter greenhouses from weedy areas in the fall & are not a major pest.

Greenhouse Whiteflies

Look for clear, white wings.

Greenhouse Whiteflies

Look for on underside of leaves. If they are stationary, females may be laying eggs.

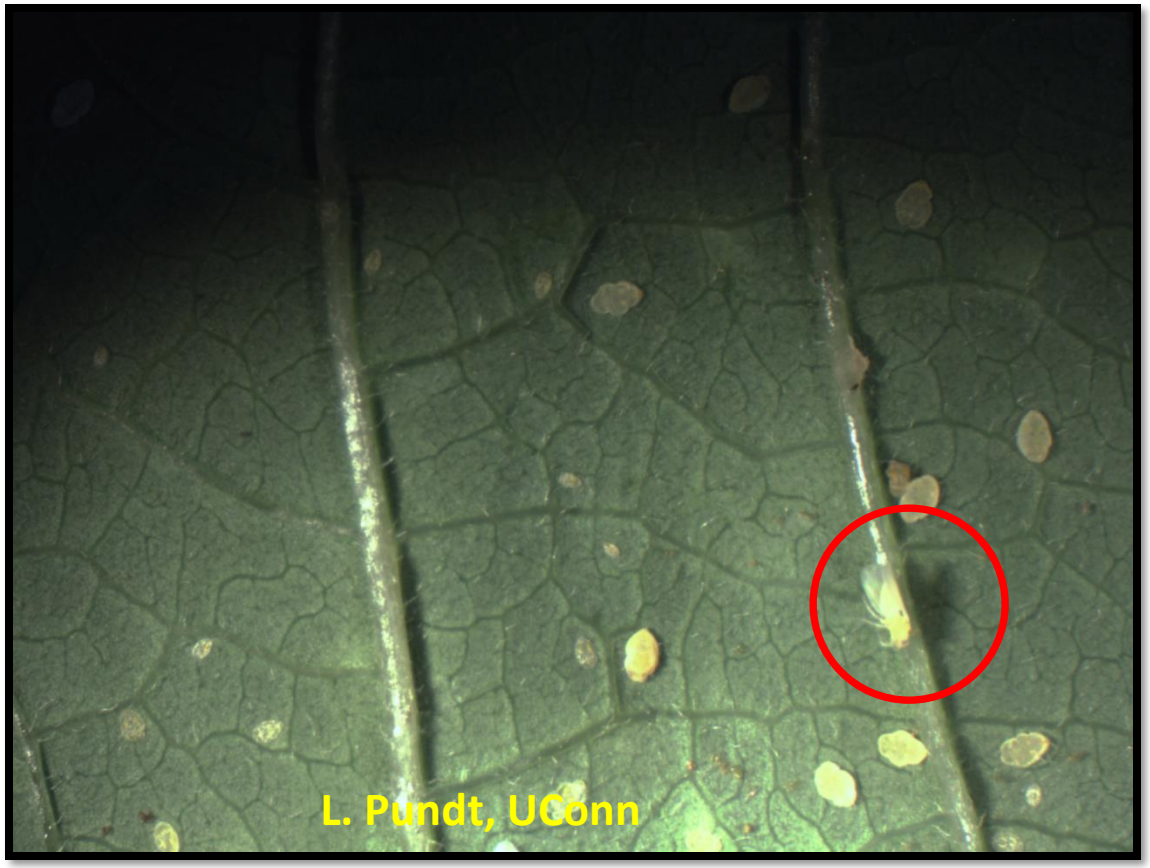
Greenhouse Whiteflies

Wings are more horizontal over body than sweet potato whiteflies

Scouting for Whitefly Adults

- **Conduct random inspections, found in hot spots.**
- **Look for adults on the youngest, most tender growth.**
- **Adult whiteflies may be attracted to poinsettia cultivars with lighter, more “yellowish” foliage.**
- **Adults may fly upwards when disturbed.**

Sweet potato whiteflies



Wings are held close to the body at a 45-degree angle with a tent-like shape. Adults are slightly smaller, yellowish in color, and tend to be more active than greenhouse whiteflies.

Greenhouse Whiteflies

Wings are more horizontal over body giving a more triangular shape.
Adult female pivots around laying eggs in a circular pattern.

Bemisia Whiteflies

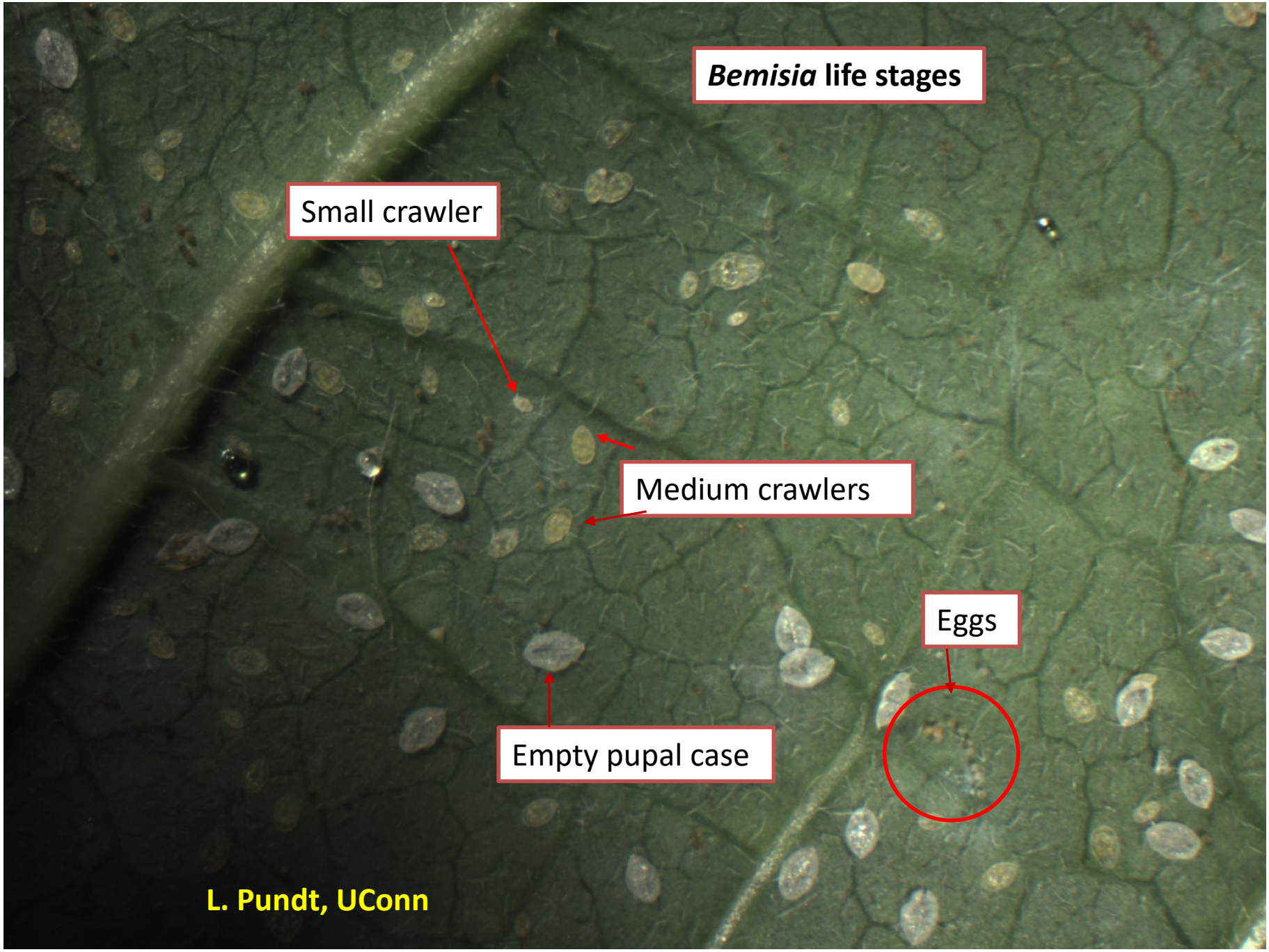
- **Sweet potato whitefly adult lays eggs as she moves around on the plant and the eggs may be more scattered on the leaf compared to greenhouse whiteflies.**

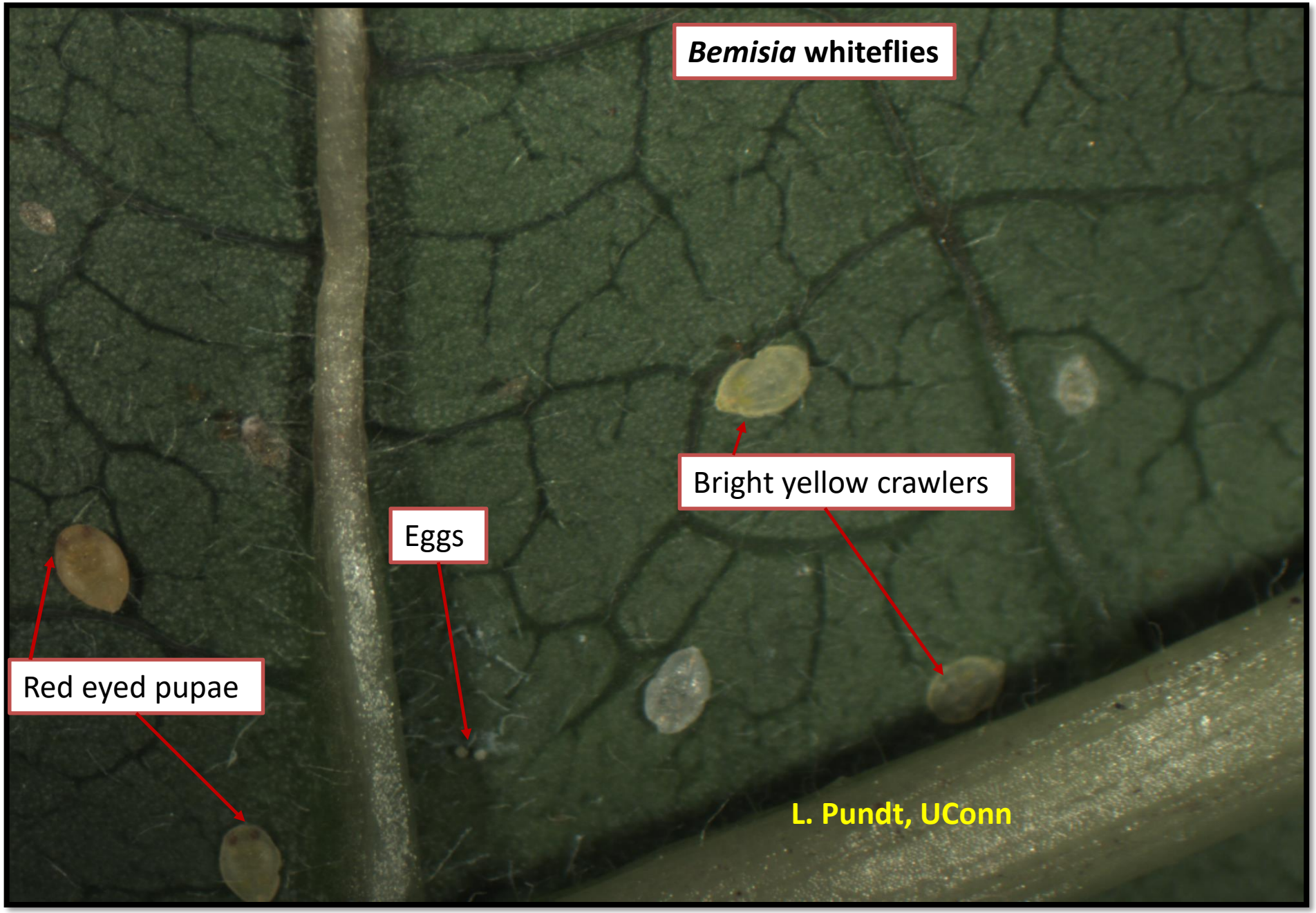
- **Eggs hatch into immature nymphs or crawlers found on the underside of the leaves. These crawlers gradually become larger.**

- **It is hard to distinguish between the species (sweet potato (*Bemisa*) compared to greenhouse whitefly) at the small crawler stage.**

Bemisia Whiteflies

Eggs gradually turn amber brown (within circle).


Bemisia life stages
Small crawler
Medium crawlers
Eggs
Empty pupal case
L. Pundt, UConn


Bemisia whiteflies
Bright yellow crawlers
Eggs
Red eyed pupae
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Bemisia whiteflies

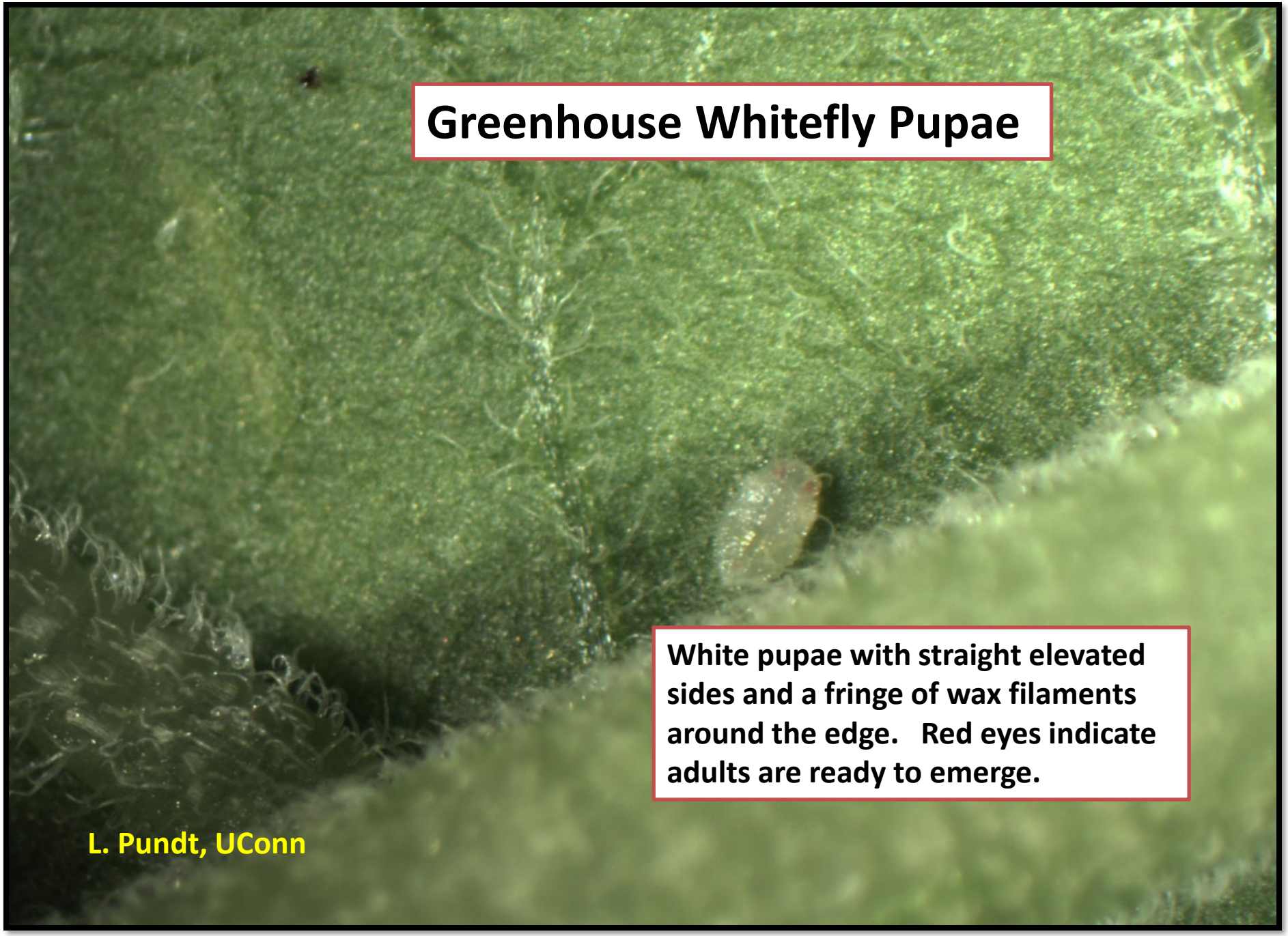
Parasitized brown *Bemisia* pupa (circled).

Whitefly Pupae

Inspecting the whitefly pupae on the underside of the older leaves is the easiest way to tell whether you have greenhouse whiteflies or sweet potato (*Bemisa)* whiteflies.

Greenhouse Whiteflies

White pupae with straight elevated sides and a fringe of wax filaments around the edge.


Greenhouse Whitefly Pupae
White pupae with straight elevated sides and a fringe of wax filaments around the edge. Red eyes indicate adults are ready to emerge.
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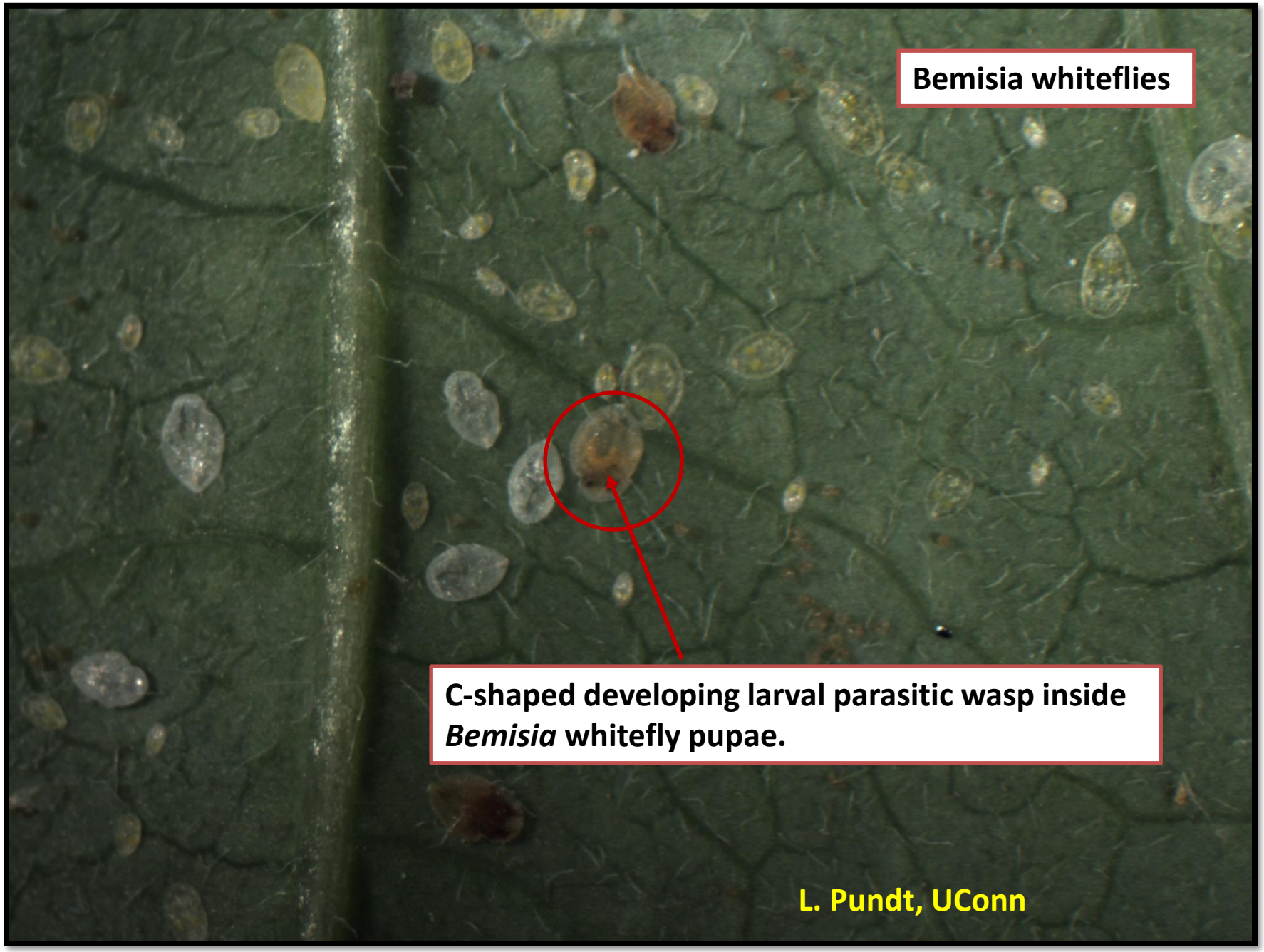
Greenhouse Whitefly Pupae

Sweet potato whitefly pupae

Bright yellow <u>without</u> fringe of wax filaments around its edge.
Red eyes indicate adults are ready to emerge.


Bemisia whiteflies
C-shaped developing larval parasitic wasp inside *Bemisia* whitefly pupae.
L. Pundt, UConn


Brown paratisized sweet potato whitefly
L. Pundt, UConn

Parasitized sweet potato whiteflies

On the right, whitefly pupal case with round emergence hole where parasitic wasp has emerged (circled). On the left, brown parasitized *Bemisia* whitefly.

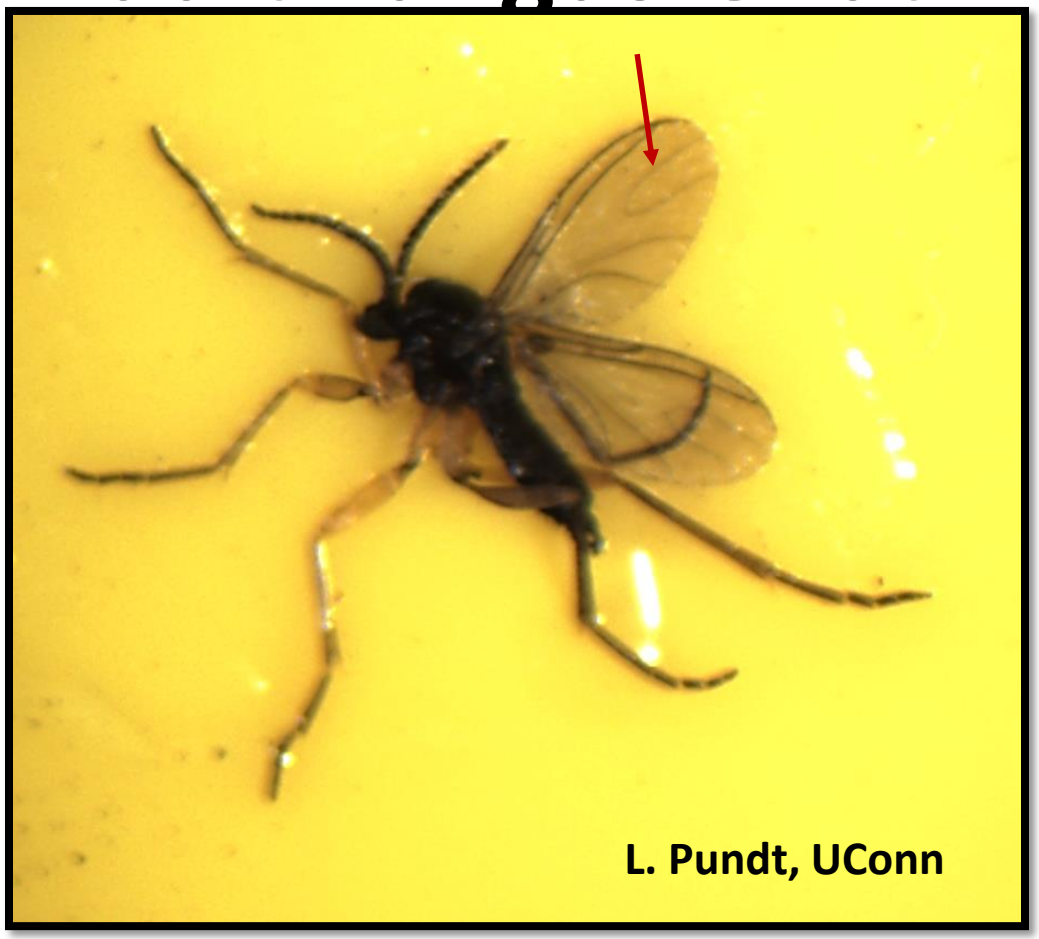
Empty Pupal Case

Look for T-shaped emergence hole or slit down the center, where the adult whitefly has emerged. A round hole would indicate a beneficial parasitic wasp emerged.

See round emergence holes when parasitic wasps emerge

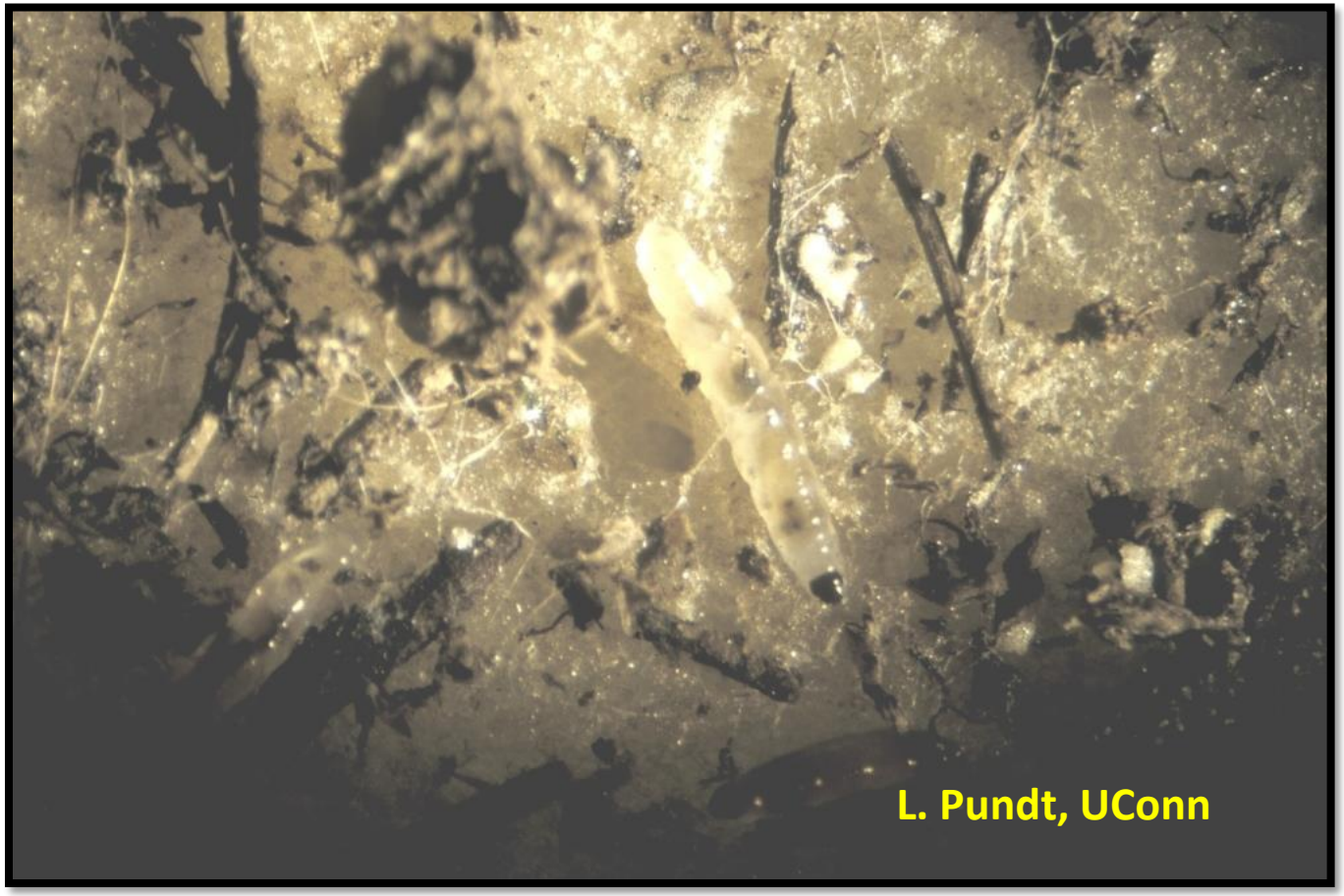
Empty pupa of greenhouse whitefly from which *Encarsia formosa* has emerged.

Adult Fungus Gnat



Adults resemble mosquitoes, are about 1/8 inch long, with long legs & antennae. Look for distinct Y-shaped vein at the tip of the single pair of wings.

Fungus Gnat Larvae



White, legless larvae (about ¼ inch long when mature), with a distinct black head capsule.

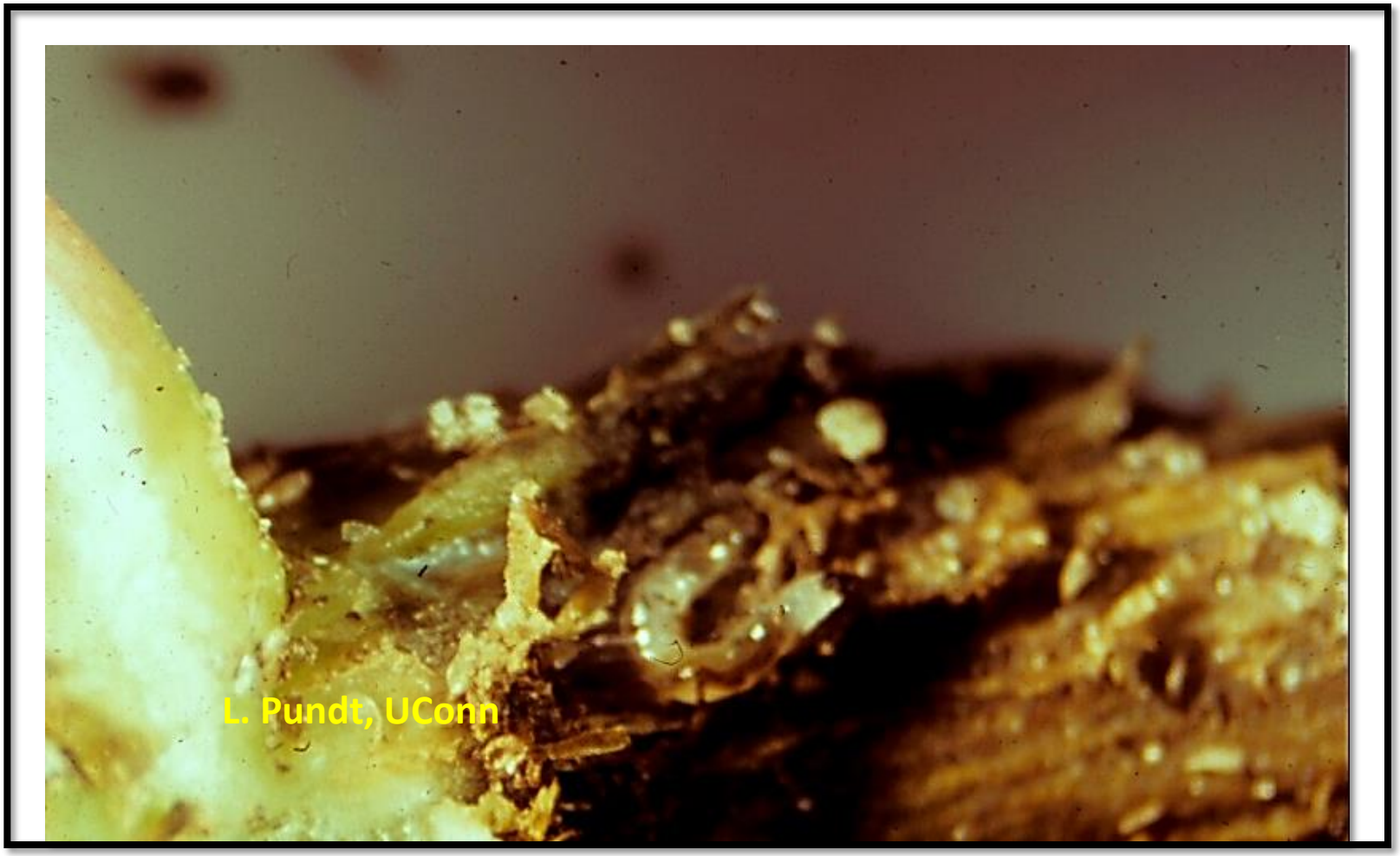
Fungus Gnat Damage

Blunt root tips that have been fed upon by larvae.

Fungus Gnat Damage

Larvae bore into roots, killing root tips.

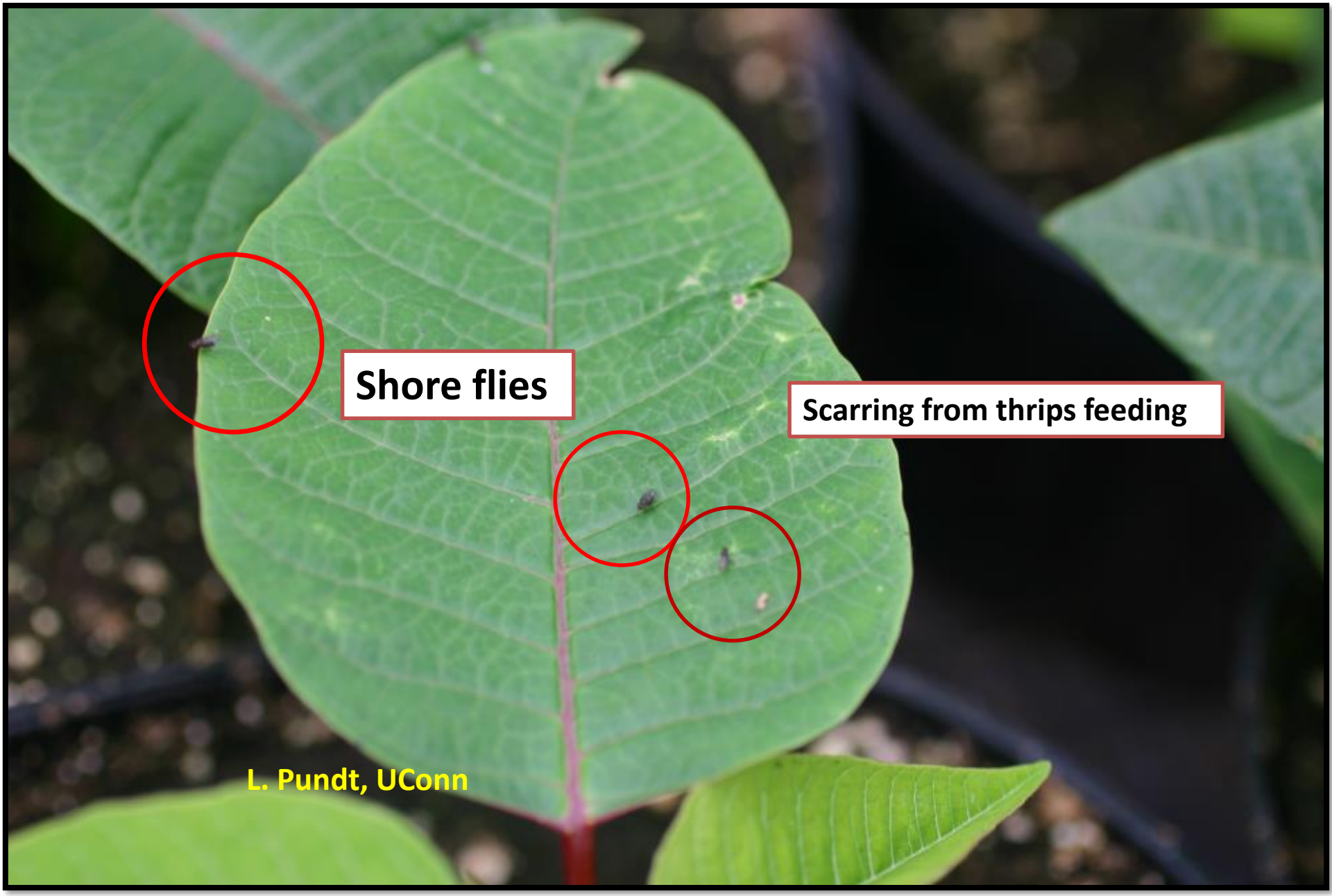
Fungus Gnat Damage



Larvae boring into stem.

Hunter Fly

Aerial predator of fungus gnats and shore flies. About twice as large as shore flies.

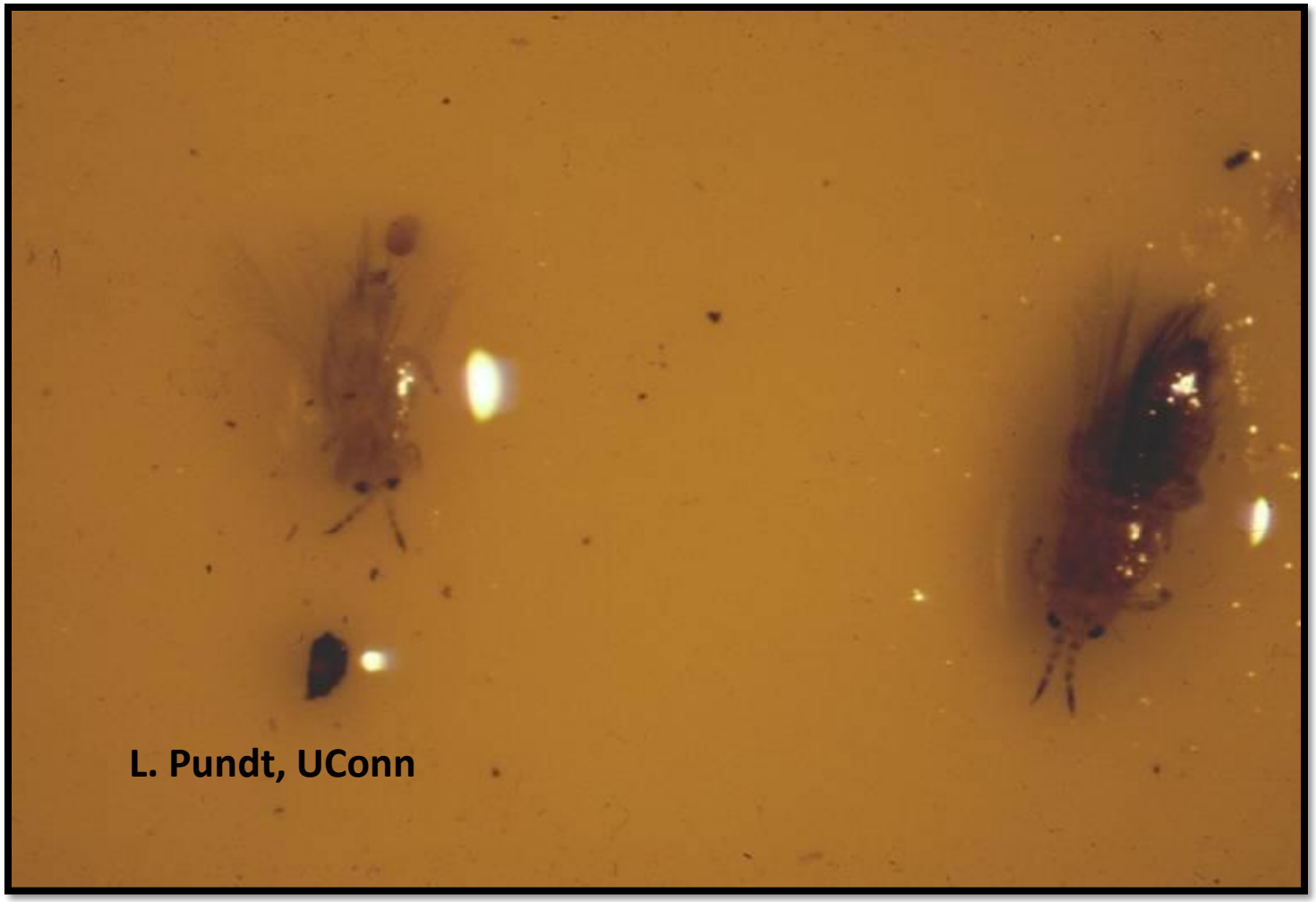


Shore flies are not a plant pest, but feed upon algae.

Thrips Damage

Silver streaking or flecking on expanded leaves.

Adult thrips



Narrow, cigar shaped insects with fringed wings.
Male on left, female on right.

Less Common Insect and Mite Pests

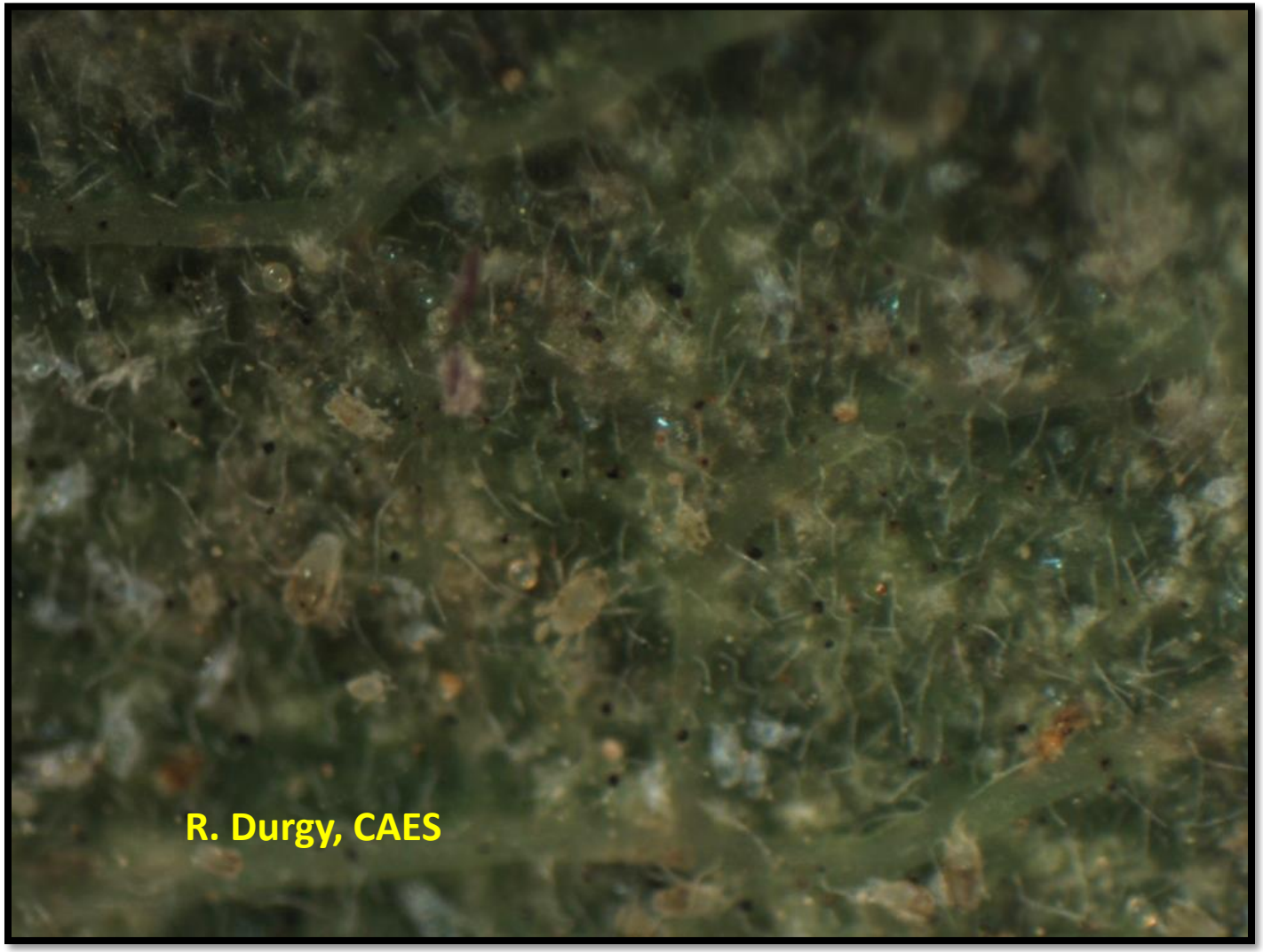
- **Lewis Mites**
- **Two spotted Spider Mites**
- **Mealybugs**
- **Aphids**

Lewis Mite Damage

Lewis mites produce less webbing than spider mites.
They may occur from August to October on specific cultivars.

Lewis Mites

Lewis Mites



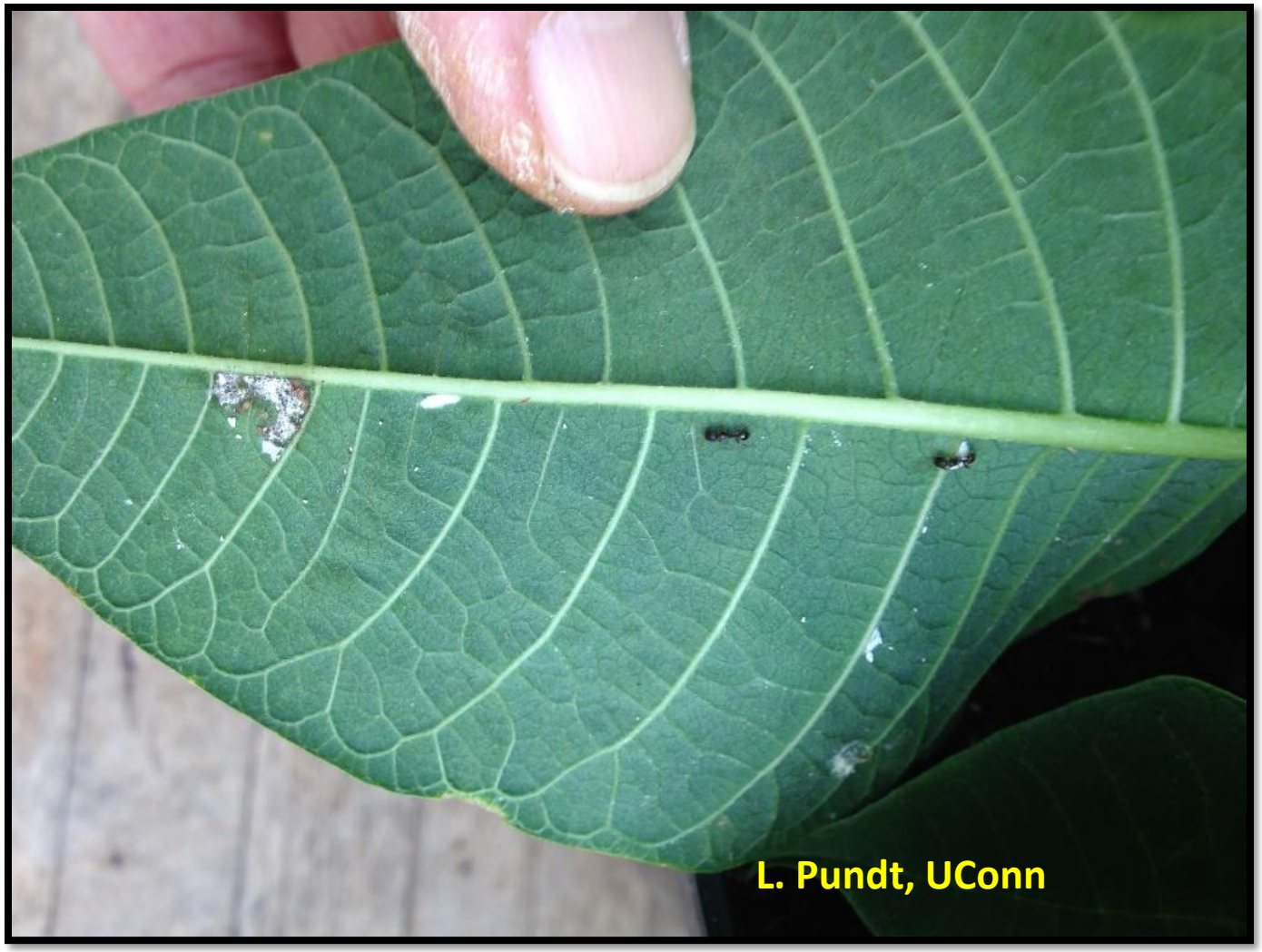
Lewis mites are small, 1/16 inch long, slender and straw colored. Adults have several small spots.

Two-spotted spider mite damage

Two-spotted spider mites may migrate from weeds onto poinsettias.

Two-spotted Spider Mites

Mealybugs



Ants guarding mealybugs for their honeydew.

Caterpillar Damage

Fecal droppings and feeding from caterpillars

Foxglove Aphids

Shiny, light yellowish-green aphids with dark green patches at the base of their cornicles.

Thank you!