Pest Thrips of the United States: Field Identification Guide

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Pest Thrips of the United States: Field Identification Guide

What are thrips?

- Thrips are small plant pests in the insect order Thysanoptera. Pest thrips use their asymmetrical paired mouthparts to puncture cells on the leaf surface, and then to drink or suck plant juices. Of the more than 7,000 species described worldwide, many are not considered plant pests. Non-pest species may feed on fungi, leaf litter, debris, or other small arthropods. Beneficial thrips species may feed on other thrips, aphids, mites, and whiteflies. Many predatory thrips species mimic ants in appearance.

How do Pest Thrips establish?

- Most thrips species that are considered pests of concern have an extremely wide host range, although some exceptions occur. The small, cryptic size and reproductive potential of pest species have made them particularly successful. Thrips have the potential to hitchhike on plant material being shipped between states and countries. As difficult as the immature and adult thrips can be to detect, eggs laid on plant material can be hidden, even from the well-trained eye. Some species of thrips also have a resting stage in the soil. If a suitable host and habitat is available, a thrips species may not have difficulty establishing due to short life cycles and the ability for females to reproduce with mating, a characteristic known as parthenogenesis.

The following characteristics are useful for field identification:

- Body size and color
- Presence of wings in adult form
- Damage symptoms
- Known geographical distribution
- Host preference and feeding location

Plant damage

- Thrips damage can be quite variable depending upon the pest species and host or cultivar. Some thrips may prefer feeding on the flowers, while others will be more readily attracted to the foliage. Typical flower damage includes browning and early flower drop. Thrips feeding damage on foliage can resemble other plant feeders with symptoms such as bronzing, flecking, silvering, and curling. Fruit damaged by thrips may be scarred, deformed or aborted.

- Direct physical damage by thrips feeding can reduce crop yields or result in lost market value for an ornamental plant. Depending upon the host, some levels of thrips populations may be tolerable. Even if direct thrips damage can be sustained by the host, the ability of thrips to transmit tospo- viruses must be considered. The major tospoviruses vectored by thrips include: Tomato Spotted Wilt Virus and Impatiens Necrotic Spot Virus. Virus symptoms may resemble other plant disease symptoms or nutritional issues. Wilting, black streaking, necrotic black spots, chevrons, or concen- tric circles of light and dark coloration are symptoms of viral infection.

General thrips integrated pest management

- Thrips IPM may be necessary both for controlling the direct damage caused by thrips species as well as the viruses they transmit. Once virus is present in a region, culling infected plant material and thrips thrips management is the only option for virus control. If you suspect you have a thrips and/or thrips vectored pest problem, remember that it is important to have the thrips species and the virus identified. Thrips species can be difficult to differentiate in the field, and virus symptoms may resemble other problems. If you plan to use chemical control methods to manage your thrips populations, remember to rotate applications by modes of action. If you do not rotate your modes of action, you may develop a pesticide resistant population of thrips. Remember to scout for the presence of natural enemies. In some cases, natural enemy populations may be sufficient to man- age thrips populations at acceptable levels. In some cropping systems, western flower thrips are considered an important predator of spider mites.

General thrips integrated pest management continued

- Monitoring for thrips and their natural enemies is best accomplished by tapping foliage or flowers over a small, white artist palette. Thrips can then be collected by picking them up lightly with a small paintbrush and placing them in a vial or container with alcohol. Keep samples collected from foli- age separate from flowers. Plants may be also directly inspected with a hand lens. Larger species and those present on the flowers may be evident, but more unseen thrips will be collected with the flower and foliage shaking method.

- For greenhouse-grown commodities, sanitation and exclusion may effectively control thrips out- breaks. Check doorframes and air vents for potential entry of microarthropods. Enclose or place a fine mesh over potential entry points. Try to keep areas around greenhouses as weed-free as pos- sible, as weeds can serve as alternative hosts for thrips. Inspect plant material prior to introducing into your greenhouse. Monitor for thrips and other microarthropods, such as aphids and whiteflies, with yellow sticky cards.

- It is a good idea to remember that plant material grown from cuttings may be virus-infected. As a result, only a few thrips introduced into a greenhouse can then transfer the virus to the majority of your crop. If you have crops grown from cuttings and seed-grown plants, it may be best to not main- tain both types of plant material in one greenhouse

- Although the above general information may be helpful, you should always consult with your local cooperative extension service for recommendations specific to your area or commodity.

Warning

- **Warning! This deck is not a comprehensive listing of all thrips. Although useful as a field-screening tool, field identification is not definitive for new county, host, state, or continental records. Slide mounting of specimens and identification by a specialist is necessary for species-level thrips confirmation. Available literature was used for host information. This deck should not be considered a definitive list for reproductive host information. Initial diag- nosis of the presence of a tospovirus should be confirmed by a plant disease clinic. Local cooperative extension service personnel should be contacted for IPM recommendations specific to your state, host, or habitat situation.**

Key Website Resources

- National Plant Diagnostic Network, Links to Available Diagnostic Clinics http://www.npdn.org/
- National Plant Diagnostic Network Traning and Education http://cbc.at.ufl.edu/
- Regional Integrated Pest Management Centers http://www.ipmcenters.org/
- Find Your Local Cooperative Extension Office http://www.csrees.usda.gov/Extension/
- National Plant Board, Link to Your State Department of Agriculture http://nationalplantboard.org/member/index.html
- U.S. Forest Service http://www.fs.fed.us/
- Center for Invasive Species and Ecosystem Health http://www.bugwood.org/
- University of Florida Thrips IPM Website http://ipm.ifas.ufl.edu/agriculture/vegetables/thrips/index.shtml
- Tospovirus Resource Page http://www.oznet.ksu.edu/tospovirus

Key Website Resources continued

- Thrips KnowledgeBase, Glades Crop Care
  http://www.gladescropcare.com/pg1.html
- University of California-Davis, Thrips Information Website
  http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7429.html
- University of California-Davis, Natural Enemy Guide
  http://www.ipm.ucdavis.edu/PMG/NE/index.html
- University of Florida, IFAS Chilli Thrips Website
  http://mrec.ifas.ufl.edu/LSO/thripslinks.htm
- Texas AgriLife Extension Chilli Thrips
  Website http://chillithrips.tamu.edu
- American Phytopathological Society (APS) Plant Disease Diagnostic Compendia
  http://www.shopapspress.org/disease-diagnostic-series.html

Pest Thrips of the United States: Field Identification Guide

001

EXOTIC

Gynaikothrips ficorum

Cuban Laurel Thrips

Field Recognition

Adult body size approximately 2.6 to 3.6 mm; dark yellow-brown to black; Females have a t

May be Confused with

Weeping fig thrips, Gynaikothrips uzeli. Host preference difference is the only useful field characteristic.

Damage Symptoms

Characteristic leaf galls or rolls form. Older galls may provide shelter for natural enemies or other pest microarthropods.

Known U.S. Distribution

Although the Gynaikothrips genera originates from Asia, species in this genus have been described from Africa. G. ficorum is pantropical, appearing wherever Ficus retusa is planted. It is recorded from Algeria, Canary Islands, Colombia, Cuba, Dominican Republic, Guam, Taiwan, Ecuador, India, Java, Mexico, Nassau (Bahamas), Nicaragua, Israel, Palestine, Panama, Puerto Rico, Salvador, Thailand, Spain, Sicily, and the U.S. It has been present in the U.S. since the late 1800's and is recorded from California, Florida, Hawaii, and Texas.

Common Hosts

Ficus microcarpa is preferred, but F. retusa, viburnum, and citrus are also hosts.

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Gynaikothrips ficorum

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Cuban Laurel Thrips
Gynaikothrips ficorum

002

EXOTIC

Gynaikothrips uzeli

Weeping Fig Thrips

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May be Confused with

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Damage Symptoms

Characteristic leaf galls or rolls form; premature leaf drop and purplish-red spots on the underside of leave; older galls may provide shelter for natural enemies or other pest microarthropods.

Known U.S. Distribution

Detected in Florida in 2003; subsequently reported in Mississippi, Louisiana, Alabama, and Tennessee.

Common Hosts

Only completes its life cycle in the weeping fig, Ficus benjamina, but also reported from F. obtusa, F. pilosa, F. microcarpa, and Macaranga sp.

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Gynaikothrips uzeli

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Weeping Fig Thrips
Gynaikothrips uzeli

003

EXOTIC

Holopothrips tabebuia

Tabebuia Thrips

Field Recognition
Adult body size approximately 1.5 to 2.2 mm; yellow body with last few abdominal segmer

May be Confused with
Lighter in coloration than other species with a tube-like structure at the end of the abdomen for laying eggs. Could be

Damage Symptoms
Edges of leaves curl inward and form galls; immature and adult thrips found inside the galls. Damage is fairly host-spe

Known U.S. Distribution
Florida, Puerto Rico

Common Hosts
Trumpet trees (Tabebuia spp.)

Tabebuia Thrips
Holopothrips tabebuia

003

EXOTIC

Holopothrips tabebuia

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Known U.S. Distribution
Florida, Puerto Rico

Common Hosts
Trumpet trees (Tabebuia spp.)

Tabebuia Thrips
Holopothrips tabebuia

004

NATIVE

Frankliniella bispinosa

Florida Flower Thrips

Field Recognition

Adult female: 1 mm, pale yellow with gray bands or spots on abdominal segments. Adult m

May be Confused with

Onion thirps and other Frankliniella species, especially western flower thrips and eastern flower thrips.

Damage Symptoms

Prefers feeding on flowers, but will also infest foliage and damage fruit when population densities are high. Damage similar to western flower thrips. Distorted, corky tissue may occur on fruits of certain varieties of grapefruit and orange. Pollination reduction may also occur. Known as a secondary vector for TSWV.

Known U.S. Distribution

Southeastern U.S.

Common Hosts

Wide host range, including flowers of a multitude of native plants, and several vegetable crops such as tomatoes, peppers, potatoes, and beans. Citrus, landscape roses, and ornamental cut flowers, such as yellow and white chrysanthemums, are a favorite host. In Florida, it is suspected that Florida flower thrips moves to vegetables following blooming of other hosts, such as citrus, pine, and oak.

Florida Flower Thrips
Frankliniella bispinosa

004

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Florida Flower Thrips
Frankliniella bispinosa

005

NATIVE

Frankliniella fusca

Tobacco Thrips

Field Recognition

1 to 1.5 mm body size; yellow-brown to dark brown or black body; winged or wing- less for

May be Confused with

Gladiolus thrips, onion thrips and common blossom thrips or tomato thrips in subtropical to tropical climates. Tobacco thrips is smaller in size and has lighter antennae than gladiolus thrips. Common blossom thrips or tomato thrips only have winged forms.

Damage Symptoms

Small black spots may be evident on the underside of leaves where thrips are feeding. Leaf veins have a silvery outline. Known as a secondary vector of TSWV.

Known U.S. Distribution

Occurs through the continental U.S.

Common Hosts

Wide host range, including tobacco, cotton, peanuts, beans, tomatoes, peppers, and several ornamental hosts. This is the most important pest thrips species for peanut.

Tobacco Thrips
Frankliniella fusca

Adult Female

005

NATIVE

Frankliniella fusca

Tobacco Thrips

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Tobacco Thrips
Frankliniella fusca

Adult Male

005

NATIVE

Frankliniella fusca

Tobacco Thrips

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Tobacco Thrips
Frankliniella fusca
Flecking Damage from Feeding

006

NATIVE

Frankliniella occidentalis

Western Flower Thrips

Field Recognition

Adult female: 1.5 mm, color morphs ranging from pale to dark, gray bands on abdominal s

May be Confused with

Other Frankliniella species, especially eastern flower thrips, F. tritici, and Florida flower thrips, F. bispinosa. Also may be

Western Flower Thrips
Frankliniella occidentalis

006

NATIVE

Frankliniella occidentalis

Western Flower Thrips (continued)

Damage Symptoms

Prefers feeding on flowers, but will also feed on leaves, fruits, stems, and spider mites. Flo

Known U.S. Distribution

Greenhouse pest throughout the U.S., and capable of overwintering in the Mid-Atlantic, Southern, and Western U.S. Native to the western U.S.

Common Hosts

Wide host range, but most damaging on tomatoes, peppers, cotton, lettuce, other leafy vegetables, cucurbits, and flow

Western Flower Thrips
Frankliniella occidentalis

006

NATIVE

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Western Flower Thrips
Frankliniella occidentalis

007

EXOTIC

Frankliniella schultzei

Tomato Thrips (Common Blossom)

Field Recognition

Approximately 1 mm in size and may occur in lighter or darker forms; wings fully develope

May be Confused with

South American flower thrips, Frankliniella insularis, tobacco thrips, or onion thrips. A microscope can be used to view the position of a pair of setae, or hairs, on the edge of the hind simple eyes, or ocelli. The position of these setae between the posterior ocelli separates common blossom thrips from similar species.

Damage Symptoms

Typical damage of other Frankliniella species. It is considered a primary vector of TSWV. Also a vector for INSV, capsicum chlorosis virus, groundnut ringspot virus, and tomato chlorotic spot virus.

Known U.S. Distribution

Distribution limited to tropical and subtropical areas, such as central and south Florida.

Common Hosts

Visits flowers of many crops and wild plants. Wide host range, including major vegetable and row crops, as well as ornamentals.

Tomato Thrips (Common)
Frankliniella schultzei

008

NATIVE

Frankliniella tritici

Eastern Flower Thrips

Field Recognition

Adult female: 1 mm, yellow with gray bands or spots on abdominal segments. Adult male:

May be Confused with

Onion thrips and other Frankliniella species, especially western flower thrips and Florida flower thrips.

Damage Symptoms

Prefers feeding on flowers, but will also feed on leaves, fruits, and stems. Flowers damaged have a flecked or speckled appearance prior to premature browning and dying. Damaged foliage may appear silvery and/or have a twisted appearance. Tomatoes, grapes, blueberries, and green beans may have halo spots on leaves. Distorted or corky tissue appearance may occur on either green beans or fruits of pepper, nectarines, peaches, strawberries, and blueberries. Mixed populations of western flower thrips, eastern flower thrips, and Florida flower thrips are common.

Known U.S. Distribution

Native to the Eastern U.S., but also reported in the Western U.S.

Common Hosts

Wide host range, including various vegetable, fruit, and floriculture crops.

Eastern Flower Thrips
Frankliniella tritici

009

EXOTIC

Thrips calcaratus

Introduced Basswood Thrips

Field Recognition

Adults 1.2-1.5 mm in size; yellowish brown to brown body; four fringed wings. Well-develo

May be Confused with

Not easily confused with other thrips in basswood. Native basswood thrips is white or light colored with red eyes. Pear thrips and predatory thrips have darker bodies.

Damage Symptoms

Early bud drop; leaf silvering; branch dieback; reduction in growth with a thinner crown; tree death rare.

Known U.S. Distribution

Most problematic in forests within the northern U.S. in association with American basswood. Responsible for much of the decline of forests in the Great Lakes region.

Common Hosts

Basswood (Tilia spp.), but particularly damaging on American basswood (Tilia americana).

Introduced Basswood Thrips

Thrips calcaratus

010

EXOTIC

Thrips palmi

Melon or Palm Thrips

Field Recognition

Adult body size approximately 1 mm; pale yellow to white; dark hairs on body; 7 antennal s

May be Confused with

Other yellow forms of Frankliniella species, such as western flower thrips, eastern flower thrips, and Florida flower thrips; Frankliniella antennae are 8-segmented in comparison to the 7-segmented antennae of melon thrips; fruit or foliage damage more common for melon thrips.

Damage Symptoms

Leaf crinkling and discoloration, and heavily infested fields may have a bronze color or fruit scarring. Known as a vector of capsicum chlorosis virus, groundnut bud necrosis virus, melon yellow spot virus, watermelon bud necrosis virus, watermelon silvernecrosis virus, and TSWV.

Known U.S. Distribution

Landscape distribution is limited to tropical climates, but has the potential to be a greenhouse pest through the U.S. Currently occurs in the south Florida landscape.

Common Hosts

Wide host range, including several agronomic crops such as tomatoes, eggplant, peppers, melons, onion, and bean. Potential ornamental hosts include: chrysanthemums, carnations, and hibiscus.

Melon or Palm Thrips
Thrips palmi

010

EXOTIC

Thrips palmi

Melon or Palm Thrips

Field Recognition

Adult body size approximately 1 mm; pale yellow to white; dark hairs on body; 7 antennal s

May be Confused with

Other yellow forms of Frankliniella species, such as western flower thrips, eastern flower thrips, and Florida flower thrips; Frankliniella antennae are 8-segmented in comparison to the 7-segmented antennae of melon thrips; fruit or foliage damage more common for melon thrips.

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Melon or Palm Thrips
Thrips palmi

011

EXOTIC

Thrips simplex

Gladiolus Thrips

Field Recognition

Adult female brown with dark antennae and approximately 1.7 mm long; wings have a ligh

May be Confused with

Tobacco thrips, Frankliniella fusca, or in tropical to subtropical climates, common blossom thrips, F. schultzei. Tobacco thrips is smaller in size and has lighter colored antennae than gladiolus thrips. Tobacco thrips may also occur in wingless and yellow-brown forms. Common blossom thrips is much smaller than gladiolus thrips, and may occur in lighter or darker forms.

Damage Symptoms

Deformities and flecking on flowers.

Known U.S. Distribution

Occurs throughout the U.S., but unable to overwinter in northern North America. It is believed to have originated from Africa, but is widely found wherever gladiolus is grown, even if the overwintering climate is not suitable.

Common Hosts

Only known to feed and reproduce on gladiolus flowers and corms, but other ornamental plants have been listed as possible (but unconfirmed) host plants.

Gladiolus Thrips
Thrips simplex

012

NATIVE

Thrips tabaci

Onion Thrips

Field Recognition

Adults are approximately 1.3 mm in size; body color, yellow to dark brown; 4 wings with long hair

May be Confused with

Frankliniella species, particularly western flower thrips, and melon thrips, Thrips palmi. Melon thrips is slightly smaller than onion thrips, only has the yellow to white colored form, and only occurs in tropical to subtropical climates. Microscopic viewing may be necessary to differentiate Frankliniella species from onion thrips. Well-developed hairs or setae are absent on the anterior part of the thorax for all Thrips species and present in Frankliniella species, including western flower thrips. Mature onion thrips are slightly smaller than western flower thrips, have gray eyes, and 7-segmented antennae. Mature western flower thrips have red eyes and 8-segmented antennae.

Damage Symptoms

Silvering and flecking on leaves; leaf curling may resemble aphid damage; primarily feeding occurs on new plant growth, but dense populations may feed on fruit and cause scarring, dieback of terminal buds and/or death of plant. Early bulbing stage damage is most economically devastating. Known as a vector for iris yellow spot virus and TSWV.

Known U.S. Distribution

Throughout vegetable production regions in the U.S.

Common Hosts

Wide host range that includes, but is not limited to onion, garlic, tomatoes, potatoes, cabbage, cucumber, melons, squash, and strawberries. Several ornamental plants are also susceptible. Weeds and grassy areas around fields serve as possible sources for reintroduction of pest populations to fields.

Onion Thrips
Thrips tabaci

012

NATIVE

Thrips tabaci

Onion Thrips

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Onion Thrips
Thrips tabaci

013

EXOTIC

Scirtothrips citri

Citrus Thrips

Field Recognition

Adult Females: 0.6 to 0.9 mm; orange-yellow body; four fringed wings. Adult Males: slightly

May be Confused with

Chilli thrips and lighter colored forms of western flower thrips; immatures of citrus are more oval than cigar shaped; adults and larvae more easily seen on the upper surface of leaves than other species. Western flower thrips is more likely to be in flowers or new plant growth. Citrus thrips may be seen on the foliage. Citrus thrips is usually smaller and coloration may appear more orange than the pale yellow body color of chilli thrips.

Damage Symptoms

Characteristic gray or silver scars on the fruit rind. It is the primary pest thrips species of citrus (Citrus).

Known U.S. Distribution

California, Arizona, Florida, and potentially elsewhere citrus is grown.

Common Hosts

Extremely wide host range, but considered a pest of citrus, and specifically naval oranges. Also, a reported as an occasional pest of blueberries (Vaccinium) in California. Other potential hosts include hickory (Carya), cotton (Gossypium), rose (Rosa), and grape (Vitis).

Citrus Thrips
Scirtothrips citri

014

EXOTIC

Scirtothrips dorsalis

Chilli Thrips

Field Recognition

Pale yellow, almost white body color; slightly less than 1 mm in size; abdominal segments

May be Confused with

Lighter colored forms of flower thrips, Florida flower thrips, tobacco thrips, and common blossom thrips. Note that tobacco thrips also prefers feeding on leaves, but it is sometimes up to 1.5 mm in size and can occur in wingless forms as adults. Other lighter colored forms of Frankliniella species prefer feeding on flowers. Mature western flower thrips are larger than chilli thrips, but can have a similar color pattern.

Damage Symptoms

Feeding primarily occurs on new plant foliage growth and flower buds, but may also occur in flower or on fruit. Known as a vector for peanut bud necrosis virus, peanut chlorotic fan virus, and peanut yellow spot virus.

Known U.S. Distribution

Florida, Georgia, Texas

Common Hosts

Extremely wide host range, including a variety of vegetable, fruit, and ornamental crops. Some of the most damaged hosts in the Florida landscape have included: Indian hawthorn, ligustrum, plumbago, pittosporum, roses, and sweet viburnum.

Chilli Thrips
Scirtothrips dorsalis

014

EXOTIC

Scirtothrips dorsalis

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Scirtothrips dorsalis

014

EXOTIC

Scirtothrips dorsalis

Chilli Thrips

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May be Confused with

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Known U.S. Distribution

Florida, Georgia, Texas

Common Hosts

Extremely wide host range, including a variety of vegetable, fruit, and ornamental crops. Some of the most damaged hosts in the Florida landscape have included: Indian hawthorn, ligustrum, plumbago, pittosporum, roses, and sweet viburnum.

Chilli Thrips
Scirtothrips dorsalis

015

EXOTIC

Scirtothrips perseae

Avocado Thrips

Field Recognition

Pale yellow, almost white body color; slightly less than 1 mm in size; abdominal segments

May be Confused with

Other Scirtothrips and lighter colored forms of Frankliniella species; immatures of avocado thrips are more oval than cigar shaped; adults and larvae more easily seen on the upper surface of leaves than other species.

Damage Symptoms

Leaf bronzing and fruit scarring; found more commonly on foliage than other species; may hide under calyx; immatures more commonly found on the underside of leaves.

Known U.S. Distribution

First identified as a new pest and described from California in 1996; Latin America likely location of origin.

Common Hosts

Only reported from avocado (Persea americana)

Avocado Thrips
Scirtothrips perseae

015

EXOTIC

Scirtothrips perseae

Avocado Thrips

Field Recognition

Pale yellow, almost white body color; slightly less than 1 mm in size; abdominal segments

May be Confused with

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Common Hosts

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Avocado Thrips
Scirtothrips perseae

016

EXOTIC

Chaetanaphothrips orchidii

Orchid or Anthurium Thrips

Field Recognition

Pale yellow; dark spots over thorax; distinctively dark-banded wings.

May be Confused with

Chilli thrips, S. dorsalis, and other Chaetanaphothrips species such as the banana rust thrips, C. signipennis, and C. leeuweni. The dark patches on the thorax (epilets) and then the dark band formed by the wings distinguishes orchid thrips from chilli thrips.

Damage Symptoms

Ornamental flowers show typical thrips flecking and curling damage. Early flower drop may occur. Feeding damage on citrus fruit can cause a characteristic rind blemish.

Known U.S. Distribution

Common in Florida and Hawaii landscapes and greenhouses.

Common Hosts

Known as a problematic pest for several ornamental greenhouse plants, primary problems reported from Florida include orchid and grapefruit. Hawaii reports a preference for Anthurium.

Orchid or Anthurium Thrips
Chaetanaphothrips orchidii

016

EXOTIC

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Orchid or Anthurium Thrips
Chaetanaphothrips orchidii

017

NATIVE

Echinothrips americanus

Field Recognition

Adult female approximately 1.6 mm long; adult male approximately 1.3 mm long; dark bro

May be Confused with

This species is fairly easy to differentiate from other common species.

Damage Symptoms

Flecking on foliage, similar to damage from other thrips or mites; prefers feeding on host leaves, and is most commonly found on the underside of leaves; feeding on top surface of leaves or flowers occurs less frequently.

Known U.S. Distribution

Tropical and subtropical U.S. with preferred hosts and potential greenhouse pest elsewhere.

Common Hosts

Wide host range, and particularly a pest of concern for greenhouse and ornamental plants. Some preferred hosts include: hibiscus, Ficus, poinsettia, impatiens, Diffenbachia, Philodendron, and Syngonium.


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017

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Echinothrips americanus
Lacewing Larva Feeding
on E. americanus

018

EXOTIC

Taeniothrips inconsequens

Pear Thrips

Field Recognition

Adult: slightly less than 2mm in size; dark brown body; four wings with long fringed hairs.

May be Confused with

Damage symptoms may be confused with late frost symptoms. Predatory thrips, such as the black hunter thrips, Leptothrips mali, occurring in forest ecosystems.

Damage Symptoms

Crinkled brown leaves curling at the leaf margins inward; brown scars in leaf veins and petioles due to egg laying; leaf drop; decline in growth; crown dieback.

Known U.S. Distribution

Generally occurs throughout the U.S. Most serious forest outbreaks have occurred in the Northeastern U.S.

Common Hosts

Wide host range, but particularly associated with fruit crops and forests that include maple (Acer), birch (Betula), black cherry (Prunus serotina), and beech (Fagus).

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018

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Pear Thrips
Taeniothrips inconsequens

019

NATIVE

Caliothrips fasciatus

Bean Thrips

Field Recognition
Adult: dark body; four wings with fringed hairs; dark bands on front wings and legs, and a

May be Confused with
Darker forms of western flower thrips or predatory thrips, Aeolothrips spp.; other panchaetothripines due to dark i

Damage Symptoms
Leaf bronzing and silvering, typical of other leaf-feeding thrips.

Known U.S. Distribution
Western continental U.S.

Common Hosts
Problematic pest on beans (family Fabaceae). Known to hitchhike on other shipped products, such as oranges. Typi

Bean Thrips
Caliothrips fasciatus

020

NATIVE

Heliothrips haemorrhoidalis

Greenhouse Thrips

Field Recognition

Adult: black thorax and abdomen with yellow legs; approximately 1 mm in size. Immatures

May be Confused with

This is a fairly distinctive species.

Damage Symptoms

Primarily a foliage feeder, feeding first on the lower leaf surface, and then moving to the top of the leaf as populations increase; leaves with a characteristic discoloration around leaf veins; advanced infestations with complete leaf yellowing and leaf drop.

Known U.S. Distribution

Occurs in the landscape in central and south Florida, and southern California; common in greenhouses throughout the U.S.

Common Hosts

Common pest on several ornamental plants, but particularly common on croton. Other reported hosts include dogwoods, azaleas, Ficus, ferns, palms, orchids, avocado, mangoes, and natal plum.

Greenhouse Thrips
Heliothrips haemorrhoidalis

020

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Greenhouse Thrips
Heliothrips haemorrhoidalis

021

EXOTIC

Selenothrips rubrocinctus

Redbanded Thrips

Field Recognition

Adult Female: approximately 1.2 mm long; dark body and wings; a somewhat reddish colo

May be Confused with

Nymphal and pupal abdominal coloration are fairly distinctive. It is not easily confused with other dark colored, subtropical to tropical species already occurring in the U.S., especially if larvae are present. At magnification, the pronotum is 3x as wide as long, distinguishing this species from other similar species.

Damage Symptoms

Feeding occurs on foliage and fruit. Excrement droplets on foliage and typical thrips feeding leaf damage may also be present.

Known U.S. Distribution

Occurs in tropical to subtropical climates. In Florida, commonly occurs south of Orlando.

Common Hosts

Wide host range potential, but host preference may vary with local flora. Tropical fruits, such as mango and avocado, have been reported as hosts in some areas.

Redbanded Thrips
Selenothrips rubrocinctus

021

EXOTIC

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Redbanded Thrips
Selenothrips rubrocinctus

Tomato Spotted Wilt Virus (TSWV)

022 Thrips Vectored Viruses

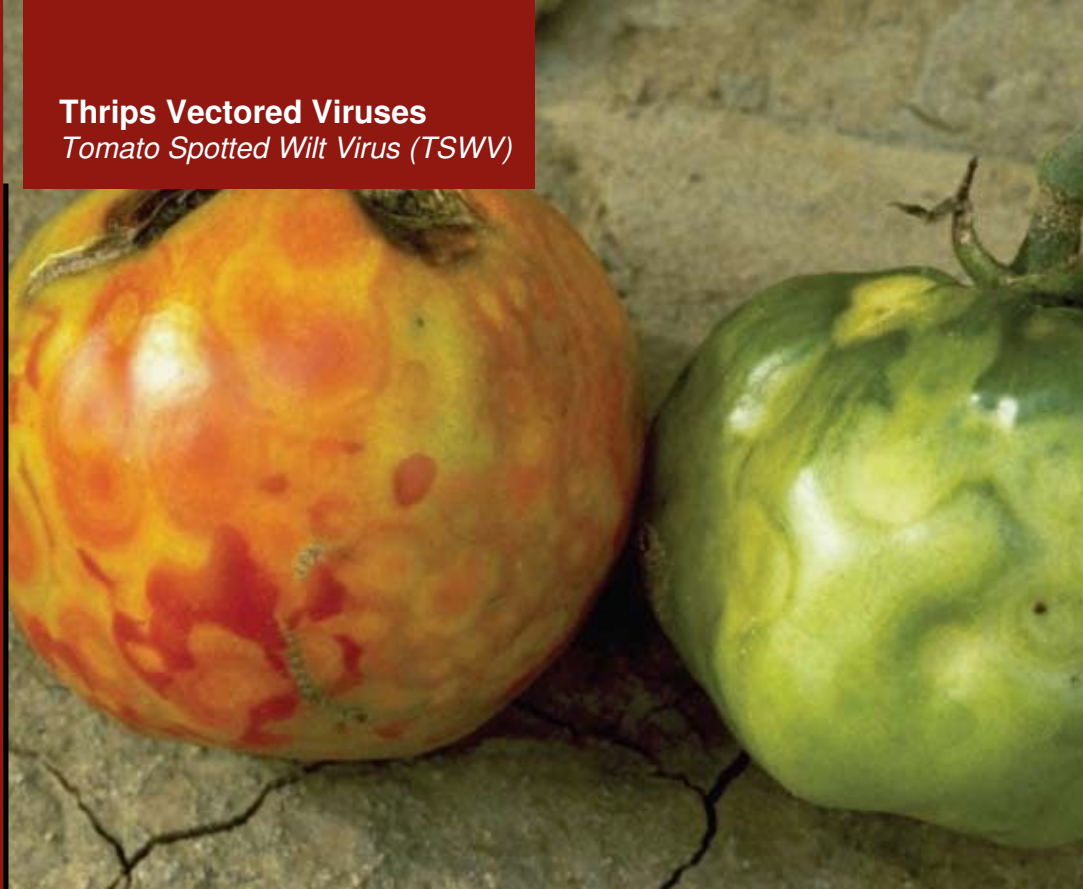
Damage Symptoms
Stunted growth or dieback of terminal tips; bronzed leaves; black, necrotic leaf spots; black

May be Confused with
Similar to INSV; viruses may also be confused with other non-viral plant diseases or nutritional problems.

Known U.S. Distribution
Originally appeared to be more limited to tropical and subtropical areas; significant movement and reported outbre

Common Hosts
Over 1000 reported hosts, including tomatoes, peppers, peanuts, and ornamental plants. Although also reported o

Thrips Vectored Viruses
Tomato Spotted Wilt Virus (TSWV)



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Stunted growth or dieback of terminal tips; bronzed leaves; black, necrotic leaf spots; black

May be Confused with
Similar to INSV; viruses may also be confused with other non-viral plant diseases or nutritional problems.

Known U.S. Distribution
Originally appeared to be more limited to tropical and subtropical areas; significant movement and reported outbre

Common Hosts
Over 1000 reported hosts, including tomatoes, peppers, peanuts, and ornamental plants. Although also reported o

Thrips Vectored Viruses
Tomato Spotted Wilt Virus (TSWV)

Impatiens Necrotic Spot Virus (INSV)

023 Thrips Vectored Viruses

Damage Symptoms
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May be Confused with
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Known U.S. Distribution
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Common Hosts
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024

Minute Pirate Bugs

Thrips Predators (Insect Family: Anthocoridae)

Field Recognition
Adult: elongate, shield-shaped front wings characteristic of true bugs (Hemiptera); 2-5 mm
Immatures: smaller with a yellow to red-brown body; wings not fully developed.

May be Confused with
Plant bugs (family Miridae)

Other Information
Generalist predator, including thrips; commercially available.

Thrips Predators
Minute Pirate Bugs

025

Predatory Thrips

Thrips Predators (Franklinothrips vespiformis)

Field Recognition

Dark colored species with white bands on legs, and clear or white band appearing across t

May be Confused with

Ants or Wasps.

Other Information

It is important to remember that not all thrips species are plant feeders. Some thrips may be vagrant, not pest spec

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Thrips Predators
Franklinothrips vespiformis

026

Six-spotted Thrips

Thrips Predators (Scolothrips sexmaculus)

Field Recognition

Light with grey marks on the abdomen and top surface of the thorax; front wings have dar

May be Confused with

Plant-feeding thrips species.

Other Information

It is important to remember that not all thrips species are plant feeders. Some thrips may be vagrant, not pest spec

Thrips Predators
Scolothrips sexmaculus

027

Predatory Mites

Thrips Predators (Amblyseius swirskii)

Field Recognition

As with other mite species, close inspection reveals no wings and eight legs instead of six.

May be Confused with

Pest mite species as well as a large number of native predatory mites.

Other Information

Predatory mites may be available commercially. Other small arthropod pests may be at least partially controlled by

Thrips Predators
Amblyseius swirskii

028 Thrips Predators (Insect Order: Neuroptera)

Field Recognition
Adults: slender bodies and four wings with a lace-like appearance. Larvae: Body may appe

May be Confused with
Not easily confused with pest species. Larvae may be confused with caterpillars.

Other Information
Adults and larvae may be good generalist predators for thrips, and other small arthropods. Commercially available

Lacewings
Insect Order: Neuroptera

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Field Recognition
Adults: slender bodies and four wings with a lace-like appearance. Larvae: Body may appe

May be Confused with
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Other Information
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