

Greenhouse Thrips, *Heliothrips haemorrhoidalis* (Bouche)¹

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Introduction

This thrips was described by Bouché in 1833 from specimens taken from a greenhouse in Europe as *Thrips haemorrhoidalis*. Packard described this species for the first time from this country in 1870 and called it the greenhouse thrips. This thrips appears in the Common Names of Insects approved by the Entomological Society of America as the greenhouse thrips, *Heliothrips haemorrhoidalis* (Bouché).

Synonymy

Thrips haemorrhoidalis Bouché 1833.

Distribution

This is a New World species although it was described originally from Europe. It was probably introduced into Europe on ornamental plants from tropical America. It is found on wild and cultivated plants in Brazil, the West Indies, and Central America. It occurs in the United States outdoors in central and southern Florida and southern California.



Figure 1. Adult greenhouse thrips, *Heliothrips haemorrhoidalis* (Bouché). Credits: Mike Merchant, Texas Cooperative Extension Service

It is found in greenhouses throughout the United States. Sometimes it escapes from greenhouses in warm months in states north of Florida. In Europe, it is found in Germany, England, France, Italy, Vienna,

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Finland, Palestine, and North Africa. This thrips can probably be found over much of the world due to its habits of living in greenhouses. It is a poor flier and remains in the shaded areas on the plant almost all the time.

Description and Biology

The eggs are white and banana-shaped and are inserted singly in plant tissue. The tip is usually visible with the aid of a hand lens. The early larval stage is whitish with red eyes. Larvae become yellowish after feeding. Mature larvae average about 1 mm in length. There are two larval instars and then it moults to the prepupal stage which is light yellow with red eyes and short wing pads. The pupal stage is slightly larger, with longer wing pads and larger eyes. It is yellowish and then darkens with age. The antennae are bent backward over the head in the pupal stage. The prepupal and pupal stages do not feed.

The adult's head and thorax darken to black while the abdomen changes from yellow, yellow-red, brown, and black. Cool temperatures retard the color changes. The legs remain a light yellow, and the antenna has eight segments. The greenhouse thrips is parthenogenic, in that it reproduces without mating, and males are seldom seen. The adult females insert their eggs into the leaf or fruit surface. Just before hatching the egg blisters. If a hand lens is used, this helps somewhat in surveying for emerging populations as it shows where the eggs are in the leaves (Anonymous 2003).



Figure 2. Adult. Credits: Division of Plant Industry

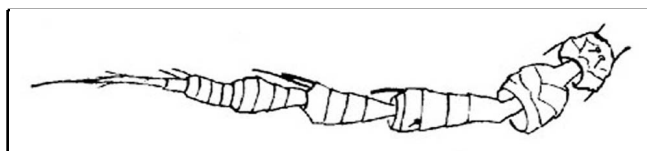


Figure 3. Antenna. Credits: Division of Plant Industry

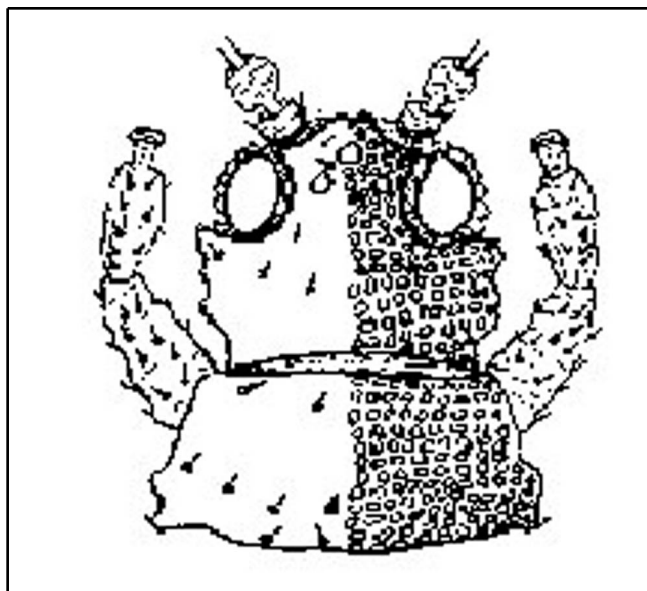


Figure 4. Head and prothorax. Credits: Division of Plant Industry

Hosts

In Florida, this thrips is found especially on crotons, but has been taken from viburnum, dogwood, azalea, *Vitis* sp., palms, ardisia, orchids, avocado, philodendron, *Crinum* sp., *Ficus nitida*, natal plum, *Coleus* sp., maple, magnolia, mangoes, *Aspidium* sp., dahlias, ferns, guavas, hibiscus, phlox, pinks and many other ornamentals. In Palestine, it is reported on oranges and on *Garcinia mangostana* in Ceylon.

The greenhouse thrips causes rind blemish problems on developing citrus fruit (i.e., ring spotting or irregular russeting), on immature and mature clustered fruit, or where a leaf or twig is in direct contact with a fruit (Stansly et al. 2003).

Economic Importance

This thrips feeds primarily on the foliage of ornamental plants. It attacks the lower surface first and, as feeding progresses and the population increases, the thrips move to the upper surface. The leaves become discolored and develop a distorted aspect between the lateral veins. Severely damaged

leaves turn yellow and drop. In addition to the feeding damage, both surfaces are covered with small droplets of a reddish fluid, voided by the thrips, that gradually changes to black. These globules of fluid increase in size until they fall off and another one begins to form, resulting in a characteristic spotting of the infestation area with black specks of fecal material. The globules serve as deterrents to predators (Anonymous 2003).

In Palestine, the greenhouse thrips injures the leaves and fruit of citrus, but does not cause leaf drop. The damage of the fruit may be well defined depressed areas, often with irregular reticulation. This kind of damage occurs when fruit is immature. On mature fruit this damage is not well defined and merges into the healthy peel without a depression. In California, based on past data, the greenhouse thrips is of greatest economic importance on coastal avocados (Anonymous 2003).



Figure 5. Damage produced by greenhouse thrips, *Heliethrips haemorrhoidalis* (Bouché), feeding on wood fern. Credits: Mike Merchant, Texas Cooperative Extension Service

Management

Only one effective natural enemy is known to attack greenhouse thrips. The minute larval parasite *Thripobius semiluteus*, which was introduced into California from Brazil and Australia in the mid-1980s. Parasitized thrips larvae appear swollen and the sides of their body are more parallel than

tapered as in the case of healthy thrips larvae. The immobile parasite pupae appear black among the colonies of translucent, unparasitized thrips.

Other less effective natural enemies include an egg parasite, *Megaphragma mymaripenne*, and three predatory thrips species, *Franklinothrips orizabensis*, *F. vespiformis*, and *Leptothrips mali*, also known as the black hunter. (Anonymous 2003).

Current Florida management recommendations may be found at:

- Insect Management Guide for Ornamentals (http://edis.ifas.ufl.edu/TOPIC_GUIDE_IG_Ornamentals).
- Citrus Pest Management Guide for Thrips (<http://edis.ifas.ufl.edu/CG005>).

Selected References

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