

# Pest Alert

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**Florida Department of Agriculture and Consumer Services, Division of Plant Industry**  
**Charles H. Bronson, Commissioner of Agriculture**

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## **Chilli thrips *Scirtothrips dorsalis* Hood (Thysanoptera: Thripidae) A new pest thrips for Florida**

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**INTRODUCTION:** On October 7, 2005, information was provided to FDACS that suggested chilli thrips (*Scirtothrips dorsalis* Hood) were present on roses that may have originated from Palm Beach County. Division of Plant Industry Inspector Marie Clark surveyed the suspected site in Palm Beach County and collected several *S. dorsalis* from *Rosa* species on October 14, 2005. This insect is a serious pest with a wide range of distribution and occurring on a wide host range including many crops.

**DESCRIPTION:** Field identification of chilli thrips species is extremely difficult and often times impossible to differentiate from other thrips in the field. Adult chilli thrips have a pale body with dark wings (Fig. 1) and are less than 2 mm in length. Immatures of chilli thrips are pale in color as are the immatures of many other thrips species. Some of the distinguishing characteristics of chilli thrips are as follows: antennae are 8-segmented with segments I-II pale, III-VIII dark; head is pale in color with three pairs of ocellar setae; one pair of ocellar setae occurring between the hind ocelli; one pair of long postocular setae behind the hind ocelli; brown antecostal line and brown area behind line in median 1/3 of abdominal tergites; abdominal sternites with brown antecostal line near anterior margin; forewings brown, paler distally; abdomen with numerous fine microtrichia.

**BIOLOGY:** Duration of each life stage (Amin and Palmer 1985): eggs 6-8 days, larval stages 6-7 days, pupal stages 2-3 days, adults up to 22 days with an average of 11 days. Reproduction is both sexually and parthenogenically. This thrips is mainly a foliage feeder; it does not feed on flower pollen. It apparently is capable of spreading tomato spotted wilt virus on peanut (Amin *et al* 1981), peanut necrosis virus (PBNV) and peanut chlorotic fan virus (PCFV) (Campbell *et al* 2005) and tobacco streak virus (TSV) (Rao *et al* 2003).

**HOSTS:** *Scirtothrips dorsalis* is a polyphagous species with more than 100 recorded hosts from about 40 different families including the following: *Acacia arabica*, *Acacia* spp. (acacia); *Acer* sp. (maple); *Amaranthus blitum* (purple amaranth); *Ampelopsis brevipedunculata* (porcelain berry); *Anacardium occidentale* (cashew); *Arachis hypogaea* (peanut); *Asparagus officinalis* (asparagus); *Calotropis gigantea* (bowstring hemp); *Camellia japonica* (Japanese camellia); *Camellia sasanqua* (sasanqua camellia); *Camellia sinensis* (tea); *Capsicum frutescens* (Tabasco pepper); *Castanea crenata* (Japanese chestnut); *Cayratia japonica* (bushkiller); *Chrysanthemum x morifolium* (chrysanthemum); *Citrus aurantifolia*, *C. maxima*, *C. unshiu*, *Citrus* spp. (citrus); *Dahlia* sp. (dahlia); *Diospyros kaki* (Japanese persimmon); *Distylium racemosum* (isu tree); *Syzygium malaccense* (Malay apple); *Euonymus japonicus* (euonymus); *Eurya japonica* (eurya); *Cuphea hyssopifolia* (Mexican heather); *Ficus carica* (edible fig); *Fragaria x ananassa* (strawberry); *Ginkgo biloba* (ginkgo); *Glycine max* (soybean); *Gossypium herbaceum* (Levant cotton); *Hevea* sp. (rubber); *Ilex crenata* (Japanese holly); *Ilex integra* (Mochi tree); *Jasminum multiflorum* (star jasmine); *Lamium barbatum* (dead nettle); *Laurus nobilis* (bayleaf); *Lycopersicon esculentum* (tomato); *Mangifera indica* (mango); *Melanoxylum* sp. (brauna); *Mimosa pudica* (sensitive plant); *Musa* sp. (banana); *Nelumbo* sp. (lotus); *Osmanthus heterophyllus* (holly olive); *Phaseolus vulgaris* (bean); *Photinia glabra* (Japanese photinia); *Pieris japonica* (Japanese pieris); *Pittosporum tobira* (pittosporum); *Podocarpus macrophyllus* (podocarpus); *Fagopyrum esculentum* (buckwheat); *Prunus mume* (Japanese apricot); *Prunus salicina* (Japanese plum); *Prunus* sp. (cherry); *Pyracantha angustifolia* (firethorn); *Pyrus* sp. (pear); *Quercus glauca*



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(Japanese blue oak); *Rhododendron* sp. (rhododendron); *Ricinus communis* (castor bean); *Rosa* sp. (rose); *Saraca indica* (ashoka); *Sauropus androgynus* (sweetleaf bush); *Solanum melongena* (eggplant); *Sonchus asper* (sowthistle); *Tamarindus indica* (tamarind); *Theobroma cacao* (cocoa); *Viburnum odoratissimum* var. *awabuki* (awabuki viburnum); *Vigna radiata* (mung bean); *Vitis vinifera* (grape); *Zanthoxylum piperitum* (Japanese pepper).

**ECONOMIC IMPORTANCE:** According to Mound and Palmer (1981), *S. dorsalis* is a pest of strawberries in Queensland, Australia; a pest of tea in Taiwan; a major pest of citrus in Japan and Taiwan (Chiu *et al* 1991, Tataru and Furuhashi 1992, Tschuchiya *et al* 1995); cotton in the Ivory Coast (Bournier 1999); soybeans in Indonesia (Miyazaki *et al* 1984) and a serious pest of chillies and castor bean in India. It is a major pest of peanuts in several states in India (Mound and Palmer 1981). Severe infestations of *S. dorsalis* can result in total defoliation and potentially heavy crop loss. Ananthakrishnan (1984) also reports damage to the following hosts: cashew, tea, chillies, cotton, tomato, mango, castor bean, tamarind, and grape.

**DAMAGE SIGNS AND SYMPTOMS:** Chilli leaves curl and shed, and fresh buds become brittle and drop (Ananthakrishnan 1980). On groundnuts (peanuts), dull yellowish-green patches form on the upper surface and brown necrotic areas and silvery sheen form on the lower surface of the leaf; leaves become thickened and some curling occurs; in severe infestations, plants are stunted and leaves are blighted (Amin and Palmer 1985). Feeding deforms young leaves (CABI/EPPO 1998) and stains or scars fruits. Malformed fruits and foliage (Fig. 2) should be examined for thrips.

**DISTRIBUTION:** South Africa, Pakistan, India, Bangladesh, Sri Lanka, Thailand, Malaya, Indonesia, New Guinea, Solomon Islands, Australia, Taiwan, Japan, Hawaii, Venezuela and the following locations in the Caribbean: Barbados, Jamaica, St. Lucia, St. Vincent, Tobago and Trinidad.

**FLORIDA DISTRIBUTION:** The current known Florida distribution for *Scirtothrips dorsalis* is restricted to Palm Beach County.

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Fig. 1. Chilli thrips, *Scirtothrips dorsalis*.



Fig. 2. Chilli thrips damage on *Capsicum annuum*.

Photo credit: D. R. Seal, M. Ciomperlik, T. L. Skarlinsky and W. Klassen