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); *Melanoxyllum 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*
(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, Tatara and Furuhushi 1992, Tschuchiya et al. 1995); cotton in the Ivory Coast (Bournier 1999); soybeans in Indonesia (Miyazaki et al. 1984) and a serious pest of chilies 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, chilies, 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.

**REFERENCES:**


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

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

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