

Thrips Parvispinous Wreaking Havoc on Chilli Crop in Southern Parts of India

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Thrips parvispinus (Karny) which is an invasive pest, belongs to family Thripidae of Sub-order: Terabrata and order Thysanoptera. This pest is reported from the South-East Asian countries like, Thailand, Indonesia, Taiwan, Tanzania, Malaysia, Philippines, Singapore, China and Mid European countries viz., France, Greece, Netherlands, Mauritius as well as in Australian continent. It is a polyphagous pest with a wide range of hosts depending on geographic distribution, from the regions of its most occurrence it was found to be feeding on crops like capsicum, potatoes, green beans, strawberries, eggplant, papaya and few ornamentals like gardenia, anthurium, Ficus, chrysanthemum, etc.

In India, it was first reported in 2015 on papaya by Tyagi et al. (2015); Kolkata, later Rachana et al. (2018) reported it on Dahlia; Bangalore. This is found to be infesting chilli ecosystems for the first time in India; 2021. So far, this pest is found only in the southern parts of India particularly, Andhra Pradesh, Karnataka and Telangana infesting over lakhs of acres of chilli growing areas. In Andhra Pradesh, it was first reported during January 2021 in Chilakaluripeta and Prathipadulocations, which are known to be the important chilli growing mandals(hubs) subsequently spread to different places in Guntur, Krishna, Prakasam, East Godavari, Kurnool and Anantapur districts(Sireesha et al.2021). In Karnataka it was reported from Bellary, Chitradurga, Gadag, Koppal and Raichur districts (Nagaraju et al. 2021). In Telangana, it was reported from Warangal, Mahabubabad, Khammam and Suryapet districts (Kumari et al. 2021).

Identification:

Clear dimorphism is found in *T. Parvispinous* adults. Male head and body are yellow in colour while in females only the head and prothorax are yellowish in colour while the meso and meta thorax are brown. The base of the fourth and fifth antennal segments, as well

as the third antennal segment, are light coloured (either yellow or white) and forewings are dark with a bright coloured base.



Adult- female and male *Thrips parvispinus*
 (Photo by Felipe N. Soto-Adames, FDACS-DPI).

Nature of Damage:





Both males and females cause damage. Males are found infesting the foliage in many cases. They are found colonizing the underside of leaves and are found to prefer sucking the sap from the adjacent portion of the veins on leaves. Infested leaves show yellowish and blotchy appearance. Necrotic regions and yellow streaks are found on the leaf lamina. Unlike the *Scirtothrips dorsalis* which is a severe pest of chilli that infest the foliage, *T. parvispinus* infests the floral parts and fruits as well. Damage symptoms on the flowers include scraping causing reddish streaks, it also feeds on pollen impeding pollination. Severe infestation results in drying and withering of flower. Direct feeding of larvae and adults on buds and fruits affects the fruit set and fruits attain abnormal shape.

Management:

For the management of this thrips on Chilli crop and to prevent the further spread of this pest to other parts of the country the following measures and IPM strategies can be adopted as per the advisory issued by Directorate of Plant Protection, Quarantine and Storage (ad hoc):

Removal and destruction of the infestation of infested chilli plants and other crop debris along with weeds like *Parthenium* spp and *Abutilon* spp along the field bunds that serve as off-season hosts. Community-wide installation of blue sticky traps at a rate of 25-35 per acre for mass trapping in thrips-infested fields. Growing of trap crops like sunflower. Use of organic fertilizers like Neem cake @100kg/acre, FYM@10 tones/acre and Vermicompost

@2tonnes/acre would help to strengthen the plants to withstand the damage. Nursery seedlings can be protected by spraying *Beauveria bassiana* @ 5g and *Lecanicilliumlecanii* @ 5 gm with 0.5 gm of adjuvant per liter of water. Encourage the activity of predatory mite (*Amblyseiuswirsikii*), insidious flower bugs (*Oriusinsidiosus*). Insecticides should be rotated on a regular basis like Fipronil 80WG @ 40g/acre, Fipronil 40% + Imidacloprid 40% @ 40g/acre, Cyananilprole 10 percent @ 240ml/acre, Acetamiprid 20SP at a rate of 40 g/acre, Spirotetramat 150 OD @ 160 ml/acre.

	
<i>Thrips parvispinous</i> on chilli flower	<i>T. parvispinous</i> damage on chilli plant
	
Damage on leaves	Damage on fruits

Source: Kumari et al. 2021; Vol. 24 (4) Insect Environment.