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New record of invasive South American Tomato Leaf Miner, *Tuta absoluta* (Meyrick) (Lepidoptera: Gelechiidae) on Tomato in Andhra Pradesh

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ABSTRACT

South American Tomato Leaf Miner, T. absoluta was observed for the first time on commonly cultivated tomato hybrid Sweakar (448) in farmer's fields during rabi season 2016 at Piler, Chittoor district of Andhra Pradesh. Subsequent surveys the pest was also noticed in the mandals viz., Madanapalli, Kalikiri, Vayalpadu, Kalakada, Tirupati rural and Rompicherla. Infestation was observed from nursery to harvesting of the crop. In tomato infestation was found on apical buds, leaves, stems, unripe and ripe fruits on which the black frass visible. The incidence of T. absoluta was very severe, the per cent infestation on leaves and fruits were ranged upto 86% and 50% respectively. Natural enemy such as zoophytophagous mirid bug, Nesidiocoris tenius (Reuter) was also recorded.

Key words: *South American Tomato Leaf Miner, Tuta absoluta, Nesidiocoris tenius.*

INTRODUCTION

South American Tomato Leaf Miner (SATLM), *Tuta absoluta* (Meyrick) (Lepidoptera: Gelechiidae) originated from South America; however, the type specimen for *T. absoluta* was collected from the Andean region of Perú. From 2006 to 2015, this pest crossed several borders, devastating tomato production in both protected and open fields in several countries, viz. Spain, France, Italy, Greece, Malta, Morocco, Algeria, Libya, Turkey, Syria, Lebanon, Jordan, Iraq, Iran, Saudi Arabia, Yemen, Oman, Egypt, Sudan, Ethiopia and Senegal[1]. It is also known as tomato pinworm, South American tomato moth, Tomato borer, is an oligophagous pest associated with solanaceous crops. In India, the pest was first time reported infesting tomato fields in Pune, Maharashtra in November 2014 and subsequently in other districts, viz.Ahmednagar, Dhule, Jalgaon, Nashik and Satara[2].

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SATLM attacks the crop from seedling stage to harvesting stage. It causes reduction in yield and fruit quality, known cause 50 per cent to 100 per cent loss in either greenhouse or fields. Plants are damaged by feeding on leaves, stems, buds, young fruits and by the invasion of secondary pathogens which enters through the wounds by the pest.

Recently South American tomato leaf miner is emerging pest and cause extensive damage upto 100 per cent under Indian conditions. There is a lack in effectiveness of insecticides and other management approaches due to insect's nature of damage as well as rapid capability of development of resistant strains of South American tomato leaf miner.

South American Tomato Leaf Miner, *T. absoluta* was observed for the first time on commonly cultivated tomato hybrid Sweakar (448) in farmers fields during *rabi* season 2016 at Piler, Chittoor district of Andhra Pradesh. Subsequent surveys the pest was also noticed in the mandals viz., Madanapalli, Kalikiri, Vayalpadu, Kalakada, Tirupati rural and Rompicherla. Fortnight interval observations were carried out in the famer's fields to study the pest. Infestation was observed from nursery to harvesting of the crop. In tomato infestation was found on apical buds, leaves, stems, unripe and ripe fruits on which the black frass visible (Fig.4, 5 &6). The incidence of *T. absoluta* was very severe, the per cent infestation on leaves and fruits were ranged upto 86% and 50% respectively. The larvae in the intial instars were cream colour and later instars become green colour with dark black head (Fig.1). The larvae feed on mesophyll tissues and make irregular mines on the leaf surface. Infested fruits had a pin head size hole near to the stalk. The pupa was initially dark green and later changed to brown colour (Fig.2). The adults were brown in colour with black spots on the narrow wings (Fig.3). The adults were also monitored with different pheromone traps in tomato fields. Natural enemy such as zoophytophagous mirid bug, *Nesidiocoris tenius* (Reuter) (Fig: 7) was also recorded.

Fig. 1: Larva

Fig. 2: Pupa

Fig. 3: Adult

Fig. 4: Infested leaves

Fig. 5: Unripe infested fruit

Fig. 6: Ripened infested

Fig.7: *Nesidiocoris tenius*

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